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ORIGINAL ARTICLES.

MELANCHOLIA.*

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IT is not my intention in this paper to discuss the whole subject of melancholia, but to confine my remarks to some of its special phases, which have not received the consideration from modern writers, that the importance of the subject deserves. I am well aware that some psychiatrists use the term melancholia only when applied to neuropathic cases in which the individual is self-depreciative, but I would use the expression in its broader sense, permitting it to cover all neuropathic conditions which are accompanied by a depression, out of reason with any known cause. The term is derived from the Greek, μελαν (black), and χολή (bile). Although the original has a decidedly musical sound, the condition itself represents anything but harmony. The literal translation, i.e., the doleful dumps, is much more expressive of the real condition of the unfortunate possessor of the title. The etymology of the word recalls the fact that the physicians of earlier days held the view, that in cases of melancholia, predominance of black bile pervaded in the physical organism, which affected the mind, thus producing madness.

This was seemingly, they said, borne out by the symptomatology, the muddy complexion, sour odor of the perspiration, bad-smelling breath, due to perverted salivary secretions; constipation, and other evidences of perverted function. Little was known then regarding the influence of mental states on bodily function, or our professional forefathers might have held, that the presence of "black bile" in the system was the result of a perverted mental state, rather than the mental derangement being due to the perverted physical condition.

Foster defines melancholia as "a state of mental depression in which the misery is unreasonable, either in relation to its apparent cause or in the peculiar form it assumes, the mental pain depending upon physical and bodily changes and not directly upon environment." He further says: "It may be a prodromal or reactive stage in some mental disorder, or it may be complete in itself."

The International gives the following: "Melancholia is a form of disorder of the intellect often preceding mania, characterized by depression and melancholy and often of a suicidal tendency. There are three principal forms: religious, hypochondrical and nostalgic."

It seems to me that these definitions fail to grasp the real etiology of the condition, in many instances, if not all. While it is true that physical conditions may give rise to melancholia, as in certain cases following surgical operations, yet my experience leads me to believe that the original cause of the disease is more often to be found in a perverted state of consciousness than in the explanation just cited. This view has so persistently presented itself in my practice, that I am led to define the condition as a perversion of the ego; a state of selfism brought about in many instances by the individual's selfishly brooding over his own troubles, trials or physical ailments. He thus establishes a morbid state of consciousness which leads to physical derangement of bodily function, giving rise, when long continued, to faulty elimination of the waste products of the body and consequent auto-intoxication. In such cases there undoubtedly exists more or less malassimilation, although this condition is not always easily appreciable in the early stages of the disease. Its most marked effects, however, may be observed in the consciousness of the individual. It is somewhat strange that the egoistic nature of melancholia has not been more dwelt upon by modern writers upon the subject. The egoism does not always, however, here present itself in its true light, but may be masked under a profuse expression of extravagant regard for others; as, for instance, in a case that recently came under my notice, the subject of which has since filled a suicide's grave; a mother constantly lamented for an orphaned child, and refused to be comforted, because of the supposed injustice of the conditions which had deprived the child of its natural protector, and the home that had sheltered it. But when the real motive of the grief was fathomed, it was found not to be so much for the child, but for herself, in that she absolutely refused to see that in the loss of the husband a double duty devolved upon her, the mother, to supply the loss sustained by the child in the death of its father. In still other instances, while the regrets are ostensibly for the dear departed, it will yet be seen that when closely studied they are selfish in the extreme. The laments of the patient are not for the loss sustained by the deceased relative, because he has been deprived of earthly benefits and pleasures, by reason of having been prematurely cut off, which might be alleged as a reason for sorrow; but because the survivor has lost his natural support and comfort. The sufferer often deplores his imagined inability to fulfil his duty to those who are actually, or supposedly, dependent upon him. There need not necessarily exist any actual responsibility in the case, for one of the marked features of the disease is the assumption of responsibility where none really exists. Such a case is at present under my care.

In some instances the patient is conscious of

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the selfishness of his feelings and assumes these responsibilities in order to excuse himself from the charge of an unwarranted egoism. So frequently has this aspect of melancholia presented itself in my practice, that one of my first steps in its treatment has been, when possible, to uncover the true nature of the condition, and convict the individual of egoism, which, if accomplished, is followed by most happy results.

Egoism being one of the attributes of human nature, man necessarily falls under its rule, yet when this characteristic is abnormally developed, as is seen in nearly all cases of melancholia, it must be corrected before a cure can be established. The rational of treatment, therefore, consists in establishing or rather developing, altruistic qualities that will supplant the over developed condition of egoism present in the case. Self-consciousness, self-preservation and self-interest constitute one of the primal laws of nature, yet when these elements are abnormally developed and the individual becomes absolutely self-centered, then that which is healthy when it exists in normal quantities, becomes injurious, and must needs be counteracted by encouraging thought for others, for the sake of others, and not for oneself alone. The best antidote for the poison of melancholia is developed by encouraging the patient to sink his own personality, in trying to help and uplift those who are in need around him. That this is a difficult task, I admit, and claim that it proves my premise that the disease often, if not in all instances, in cases such as the ones above cited, has its basis in an unnatural development of the ego, many times fostered and sheltered under the cloak of an unwarranted regard for the interests of others, when in reality the emotion is a wholly selfish one.

Permit me to cite a few cases. Miss R., unmarried, thirty-five years of age, typical case of melancholia without delusion. History of the case is that the patient lost father, mother, one brother and two sisters by death inside of one year, leaving her alone and unprotected in the world. She buried herself in thought with her dead relatives and refused to be comforted, and was fast going to the grave herself as a result of perverted function. She suffered from constant myalgia, chronic constipation, amenorrhea and malaise. Her skin was thick and muddy, her secretions sour, and her general health miserable. That hers was a typical case of functional derangement, as a result of perversion of the emotional nature, pure and simple, few will deny, who have made any extended study of the relationship which is now known to exist between perverted emotional states and the subsequent train of disordered bodily functions. The case was relieved, and finally cured by the means indicated in a previous paragraph.

Miss M.'s case.—Unmarried, aged thirty-five, melancholia with delusion, saw great spiders crawling over the coverlet, forms materialize in the darkness, epileptoid convulsions not infrequent, also an insane impulse to do away with herself which could hardly be resisted at times, so strong was it. Had been a masturbator, long ago given up, however, and was leading an exemplary life. Delusions all disappeared and health restored upon conviction of egoism.

Mrs. K., married, thirty-eight years old, melancholia with suicidal mania, had attempted to take her own life five times previous to coming under my care, and once during treatment. Occasional masturbator from childhood, which had persisted through married life, although happily married, and having a healthy son twelve years of age. Was the wife of a minister. Her delusion took the form of religious fanaticism, thought she had committed the unpardonable sin, her constant lament being: "Oh, my! Oh, my! Oh, my! Satan's own! Given over to the devil, body and soul!" In order to convince me that she had committed "the unpardonable sin" she confessed to all the sins in the category in rotation, although a woman of pure and exemplary life. While it was possible by suggestion to obtain short periods of rest for her, yet no permanent relief was secured, until I sided with her and said: "Yes, for argument's sake, I will admit that you have committed the unpardonable sin, and that Satan will claim his own. You have tried to do away with yourself six times, and your failure should convince you that Providence yet has a work for you to do."

"Oh, no!" she said, "Providence has nothing to do with it. It's Satan that prevents me. He wants me to suffer just as long as he can." I said, "All right, we will admit that, but let's beat him at his own game, and be just as happy as we can while we do live." This struck her as a novel idea, and was the first real arrest of attention that I had secured in six weeks' daily treatment. My other treatments had all been given in the face of her constant lament, "Oh, my! Oh, my! Oh, my! Satan's own! Given over to the devil body and soul!" She had seemed appreciative of my efforts in her behalf, from the first, and was profuse in her expressions of regard and gratitude. Using this as an entering wedge, I said: "I only ask one little thing of you and that is instead of saying, 'Oh, my!' say, 'I'll try,'" and while she sang her song: "Oh, my! Oh, my! Oh, my!" I repeated, "I'll try. I'll try. I'll try," until she finally became confused in her song, and she said, "Oh, my! Oh, my! I'll try. It's a lie. It's a lie. It's a damned lie. Oh, my! Oh, my!" etc., etc., continuously. But the die had been cast, and the little, "I'll try," kept creeping more and more into her song, but with the invariable subsequent vehement denial, to the end, however, that she finally was roused from her apathy and delivered from her delusions. Having thus secured an arrest of attention, persistent suggestions were made with the idea of convicting her of egoism. Her duty to her son was also strongly impressed upon her, one of her delusions being that she was unable to be a mother to the boy, and that he was sadly neglected, whereas she was unceasing in her care and forethought for him. The improvement was gradual but steady, without any relapses. At the end of six weeks she was sent down to her sister's in the country, where she remained six weeks, returning apparently cured and happy.

An orphan child, sixteen years of age, presented for treatment at my clinic in the Post-

Graduate Hospital, suffered from melancholia with delusion. The depression was so great that friends despaired of her reason. Six months previously, the child was working in a laundry in St. Paul and ran her thumb and forefinger between the rollers of a mangle-machine, injuring them so seriously that amputation was necessary. The stumps healed nicely, but the child suffered the delusion of the persistence of the injured members, with intense pain in the amputated portion and stump. She kept them constantly wrapped, taking particular pains to cover the "supposed existing fingers" to the extremity. She responded quickly to suggestive treatment. At the second sitting the delusion regarding the presence of the amputated portions of the thumb and finger had been removed, at the third sitting the pain and tenderness which was in the nature of a delusion also, disappeared; the mental and physical condition rapidly improved, and the child completely recovered from her sad condition.

Mr. X., aged twenty-six, single, melancholia with suicidal mania. Youthful masturbator, habit overcome since eighteen years of age. Passed through a revival experience a short time previous to coming under my care, in which he was deeply convicted of sin, without experiencing the desired sense of forgiveness. A deep condition of melancholia gradually settled down upon him. He tried to do away with himself twice while under treatment, and would have succeeded, except for the close watchfulness of his attendant. He was a sexual pervert, and suffered from many similar and changing delusions, which were overcome one after another by suggestion. Arrest of attention was finally secured by persistent accusation of egoism. Recovery quickly followed conviction.

Mrs. M., aged fifty, self-depreciating melancholiac, with decided hysterical manifestations brought on by shock, as the result of an elevator accident in which she suffered no bodily injury but extreme mental agitation. Only saw the patient five times. Unable to convict of egoism, patient dismissed without having received any benefit, as has been invariably the case under similar circumstances.

In all these cases bodily function was seriously interfered with. The depressing effect of emotional prodigality has long been known, but the solution of its pathology yet remains to be solved. We have discovered from clinical observation, that each and every emotion has its accompanying physical condition which may be called forth at will. The longer we study the influence of the emotions upon bodily functions, the stronger grows the impression that function is an effort upon the part of the organism to supply or fulfil a want, that want is a state of mind, and mind or intelligence an entity that can and does exist separate and apart from the body.

In support of the premises presented in this paper, I would submit that the ideal is the real, and that the law of thought is that it tends to take form in muscular or functional activity, consequently bodily function is but the outward expression of thought activity, which may or may not be carried on beneath the threshold of consciousness.

That perverted ideation naturally gives rise to perverted function, whether the idea be directly inspired by the deranged organ or produced by auto-suggestion.

That each and every mental state has its own particular chemical reaction or condition which acts directly upon the body, developing, maintaining, or perverting a healthy state of the same.

That mental states, and not bodily conditions alone are responsible for disease in a majority, if not in all cases in which it exists.

That the methods of treatment herein outlined are essentially different from those advocated and practiced by psychiatrists in general.

That they are successful just in proportion to my ability to convict the individual of the extreme selfishness of his position.

That the cases cited are typical cases of melancholia with self-depreciation.

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SOME OF THE CAUSES THAT CONTRIBUTE TO FAILURES IN GYNÆCOLOGICAL SURGERY.

By Homer I. Ostrom, M.D., New York.
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Part II.

ANOTHER cause that we may note of the possible failure of gynæcological abdominal operations, is rough and uncertain manipulation of the peritoneum.

We are but just beginning to understand the function of the peritoneum, and to appreciate how it can assist the abdominal surgeon in his work, and if due regard is had to its physiology, how it can aid him in combating the possible infection that may attend, and the traumatism that must form a necessary part of any abdominal operation.

Primarily the peritoneum, in common with serious membranes generally, prevents visceral friction, but secondarially, and this function especially concerns us now, it possesses great powers of absorption, and in some of its parts of digestion. From eight to ten times the weight of the body can be absorbed in an hour, and in the region of the pillars of the diaphragm, where the lacteal glands are the most numerous and active, materials are rapidly absorbed, and by circulation, passed through the great chemical laboratory of the liver, gall bladder, and kidneys, where they are subjected to such breaking up, and alterations as tend to deprive them of their characteristic constituents, and hence of their effect upon the system. But let us bear in mind that this is only true of the healthy peritoneum, and of the membrane possessed of all its anatomical parts. Peritonitis, which signifies more or less blood stagnation, precedes and accompanies interference of function, and the mechnical denudation of the peritoneum of its endothelial covering which must in some measure follow any intra-abdominal operation, in such measure removes the protecting envelope of the membrane, and correspond-

ingly interferes with one of its chief functions. With an uninjured and healthy peritoneum almost any abdominal operation may be undertaken, for one of the principal causes of successful abdominal surgery will be our treatment of this membrane, and will depend upon the degree with which we preserve its anatomical integrity.

For reasons already adduced this applies with especial force to operations in the region of the diaphragm, and as a matter of fact such operations are attended with a higher mortality than those in the lower abdomen or in the pelvis.

We will assume that all possible gentleness and firmness, the two go together—is exercised in manipulating the visceral and parietal peritoneum. That exploratory operations are reduced to a minimum; that repeated handling of a part is never allowed—and this will be infrequent in proportion to the definiteness of our purpose, and the exactness of our knowledge of what we want to accomplish—and that atmospheric exposure of the peritoneum is permitted only so long as may be required by the technique of the operation. Roughness, frequent thrusting of the hand in the abdomen, doing a little work, first on one side, and then on the other, when all could be done during a single introducing, indicates lack of purpose on the part of the operator, and want of a knowledge of the essential principles of operative surgery. The skillful operator will first determine what he wishes to do, and then with all expedition will accomplish his desire.

The toilet of the peritoneum forms a part of its manipulation, and hence contributes to the success or failure of gynæcological surgery. Here again fussy technique has no place. If dry sponging is used—and I strongly advocate this method of cleansing the abdomen—make each sponge do all the work it can, and so avoid any unnecessary introduction of a foreign body. If the cleansing is done by irrigation, continue to irrigate until the flow is satisfactory, rather than interrupt the process to examine whether this is so, or not. Both the dry and the moist methods of performing the toilet of the peritoneum are serviceable, each having its place in the technique of abdominal surgery; and if I could formulate a rule for their indications, I would say that the toilet of circumscribed areas is best performed by means of dry sponging, and by this I do not mean sponges wrung out of sterilized water, but absolutely dry sponges, which will absorb pus, or other fluid more thoroughly and quickly than a moist sponge. When the general peritoneum needs cleansing in all its parts, irrigation will cause the minimum degree of trauma, but in performing abdominal irrigation let us bear in mind that the most active absorption will take place in the region of the pillars of the diaphragm, and while any noxious material is rendered less harmful by passing through the glands situated there, the object of the toilet is to avoid as much as possible even that absorption, and so we will direct our chief efforts at cleansing against that part. The Trendelenburg's position will greatly assist this object. When irrigation is employed for cleansing alone, the abdomen should never be closed until the pelvis has been lowered, but when decinormal salt solution, the only one that is safe for use in the abdominal cavity, is introduced with the object of favoring its absorption into the circulation—a most useful and salutary adjunct to abdominal surgery—the opposite is true, and the pelvic elevation should be maintained.

For the purpose of irrigation I generally pour the solution into the cavity directly from the flasks in which it has been sterilized, but when deeper irrigation is desired I use my double glass irrigating tube made for me by Messrs. George Tieman & Co. This permits the fluid to flow directly from the soiled area, without forcing it into any other parts of the abdominal cavity, and the shape of the instrument allows of its safe introduction between the coils of intestines, and to all parts of the abdomen.

While the occurrences of post operative hernia cannot strictly be said to mark a failure in gynæcological surgery—this condition not being that for which the operation was undertaken—its prevention may with propriety be considered here. Do what we may, and close the wound with all possible skill, separation of tissue will sometimes occur. Fortunately this constitutes the exception, and by following anatomical indications, we may, with reasonable certainty, anticipate good and permanent union between the edges of the divided abdominal walls.

The most important consideration in the making of the wound is that the edges shall be clean, not ragged. Therefore clean, straight incisions, avoiding as much as possible traumatism of the tissues by floundering about among the muscles to find the desired place to open the abdomen, should be avoided. I do not attach much importance to the particular place at which the incision is made, save that it should be so planned as to afford the best access to the field of the operation, and avoid unnecessary bruising of the edges of the incision. When made in the median line, I prefer to go through the linea alba, not opening the sheath of the rectus muscles. The wound so made is clean, and union between the divided fascia is early and firm. I do not, however, look upon cutting through muscles as opposed to obtaining satisfactory union.

The method of closing the wound, and the material used for suturing it will bear a more direct relation to its permanent union, than the method of making the incision. In the first place we must have regard to anatomical considerations, and see to it that like tissues are brought and held in contact. Muscle will not readily unite with fascia, and if the sutures are so applied as to force a peritoneal plug between the edges of the abdominal wound, that is, if the entire thickness of the abdominal wall is included in a single line of sutures, the muscles cannot unite, and when the conglomerate scar following the course of scar tissue relaxes, the line of the incision will be found to be occupied with little else than skin, fascia and peritoneum.

One of the causes of failure to obtain firm union of the abdominal wound, is the non-observance of these clear anatomical and mechanical considerations. The peritoneum should always be sutured separately with fine absorbable material.

Thus the abdomen is closed, and a plug of peritoneum cannot be forced between the other structures during the laying of the later sutures. Each tissue above this should be sutured separately, and finally deep retention sutures of silkworm-gut introduced. In tying these I am very careful that the skin does not pucker, or lay in creases, for within the first forty-eight hours there is always more or less tumefaction, which will result in stasis if the tissues are unduly constricted by the sutures.

Let us now turn our attention to vaginal operations, and note some of the causes that contribute to failures in this branch of gynæcological surgery.

These operations belong to plastic work, and have for the most part as their object the restoration of parts and structures that have been destroyed, or whose function has been mechanically interfered with. Without entering into detail more fully than the scope of the present paper will permit reviewing the technique of each operation, and they are legion—for there seems to be no end to the ingenious devices proposed to meet the simplest indications—it will be impossible to treat this branch of our subject thoroughly. We will therefore be obliged to confine our indications of the causes of failure to generalities, and point out the principal factors that contribute to an unsuccessful issue. Here again we will assume, as in abominal technique, that the most thorough aseptic precautions and toilet have been preliminary to even the simplest vaginal operations. Not because the normal secretion of the vagina contains more virulent or more active infecting organisms than any other equally exposed part of the body, but upon the general aseptic principles that should enter into the preparation for any operation.

Two entirely opposite considerations should actuate all vaginal plastic operations. *First*, avoidance of surgical tension. *Second*, removal of sufficient tissue to insure union. By surgical tension I mean too tight suturing, a consideration that applies to general surgery, but with especial force to plastic work. We will take as an example the repair of a ruptured perineum. Whatever operation we may perform, artistic geometrical denudation, or splitting, saving as much tissue as possible—it is not difficult to see which plan I favor—the position in which the patient lies upon the table, will give an exaggerated impression of the exent of surfaces to be united, and of the suture tension required to hold them in contact. The inclination therefore is to draw the sutures tighter than is necessary in the fear that otherwise the parts will not be held together. It is not at all unusual when the operation is completed to find the perineum blanched of blood, and lying in folds between the sutures. This should never be. Tissues to be united should lie in contact, nothing more, and it is a good rule to observe that when force is required to accomplish this, some step in our technique is at fault, either the line of our suture is not correct, or we seek to obtain primary union where only union by granulation is possible. A perineum operated on in this manner will slough, or be weakened by the cutting-in of the sutures, or still more frequently will gradually spread open, because the scar tissue at the period of its formation, and when nourishment is of the most importance to its future growth and development, is deprived of its proper blood supply, and of the conditions favorable to perfect tissue formation and strength.

Repair of a lacerated os-uteri furnishes us with an other illustration of this point. The sutures are frequently laid so tight that the vaginal covering of the cervix lies in folds under them, and may be either turned in between the surfaces of the pared uterus, or turned out, showing as a line of raw tissue. Up to the point of suturing the operation may have been performed with the utmost skill, but sutures applied in such manner will nullify the most skillful work, and stamp it with failure.

I have used these two operations as the most forcible illustrations at hand of surgical tension as a cause of failure in gynæcological operations, but the same applies to operations upon the vagina iself. Posterior, and anterior colporrhaphy should be completed without tension, otherwise not only will there be sloughing, but the sutures will tear out of the lax vaginal structures.

Our second consideration, that sufficient tissue should be removed to insure union, may at first seem almost a truism, but it is, nevertheless, one that we will do well to bear in mind. Surfaces to unite physiologically, and therefore firmly, must be well vitalized and abundantly supplied with blood. In preparing our parts for union it is not sufficient to remove only the superficial layer, for this does not bring us down to firm, well-nourished structures. We must get below this, and expose a freely bleeding, smooth surface. Again we draw an illustration from the operation for the repair of a lacerated uterine cervix. All cicatricial tissue must be removed, and the laceration fearlessly denuded, or the surfaces will not unite or form a firm tissue line. For the same reason that the extensive denudation that is necessary to insure success is frequently followed by a conical and elongated cervex, I prefer, if the lacerations are extensive, to amputate the cervex up the apex of the cicatricial cone. But in this operation we must be careful to remove a sufficient wedge from the uterine flaps, or when we bring the cervical endometrium to unite with the vaginal mucous membrane, we will find the surgical tension so great that failure is certain to follow.

Each step of an operation should be performed and completed without reference to the subsequent steps of the work. The lacerated cervex should be denuded, the ruptured perineum prepared, the cancer of the breast removed according to the indications for that particular part of the technique. When this is done, and not until then, the method of suture will be adopted that best meets the requirements, and the sutures will be laid in accordance with conditions that then exist. In no part of operative surgery is the skill of the operator more apparent than in the application of sutures, and much of the success of his work will rest upon his surgical in-

stinct, and his observance of sound surgical principles, as exhibited in this part of his technique.

A word further in relation to sutures and their selection. Many failures in plastic vaginal work are traceable to the use of too large needles and too large sutures. Regarding both needles and sutures in the light of foreign bodies, and in a certain sense as obstacles to the healing process, we should seek to use the smallest of each that will hold the parts together without cutting through the tissues. I find no place in any of my operations for the heavy needles and sutures that I formerly thought were necessary to secure an artery or hold divided tissues in contact. If a ligature is applied directly to the arterial coat, and nothing else should be included within the loop, a small size will hold it securely, and if a large size of suture is required to hold structures together, the surgical tension is too great, and we may consider our technique at fault. The minimum size of needle and thread will always yield the best results, and we may undoubtedly note as one of the causes of failure ot gynæcological operations, non-recognition of these facts.

In all plastic operations when the object is to reconstruct, and the surfaces to be united are rather extensive, it is of the utmost importance that hemorrhage should be controlled before the sutures are tied, otherwise clots will form and prevent union by first intention, the principal object to be sought in all operations of this class. But to control this hemorrhage, rather oozing, for it is rarely more, is sometimes exceedingly difficult, and frequently consumes more time than the operation itself. As much as possible ligatures should be avoided, the chief dependence being placed on torsion, and dry pressure. But it is waste of time to try to control the oozing, or even the spurting from a small vessel until the sutures are placed, for the passing of the needle is liable to disturb all our efforts in that direction. I therefore proceed as rapidly as possible with the making of the surfaces for union, paying but little heed to the flow of blood until the sutures are introduced, and ready to tie, but this final step is never taken until all oozing has ceased, and the surfaces are dry. Dry sponging, hot compresses, and drawing upon a suture are usually all that are necessary; but if these fail, prolonged exposure to the air, with torsion of any bleeding vessels, will be sufficient to allow the sutures to be placed.

A final word concerning the field of operation: Formerly it was my practice in common with other surgeons, to operate under irrigation, but save in exceptional cases, mostly confined to pus cases, I have abandoned this practice in favor of dry sponging. The results are better as far as healing is concerned, the field of operation is not obscured with water, and oozing and hemorrhage are controlled more perfectly than under the constant flow of water.

42 West 48th Street.

Dr. Burton Ward, according to the *Medical Age*, declares that there is one infallible symptom indicating whether one is sane or not. Let a person speak ever so rationally and act ever so sedately, if his or her thumbs remain inactive there is no doubt of insanity. Lunatics seldom use their thumbs in writing, drawing or saluting.

SCURVY.—CLINICAL MEMORANDUM.

By Dr. A. L. Benedict.

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SCURVY is so often thought of as a disease of poorly fed soldiers and sailors, or of castaways on a desert island, that it seems allowable to report the following two cases seen in private practice in Buffalo, although an apology is necessary for the unavoidable lack of careful investigation of the blood, urine, etc. Scurvy is a disease closely allied to the purpuras, it is certainly nutritional, and the attempt has repeatedly been made to prove that it is due to a specific germ. Undoubtedly, bacteria from the mouth and intestine add to the toxicity of any nutritional disease, but the specificity of scurvy is opposed by the uniformity with which it has developed in various parts of the world, however remote from the possibility of previous infection and from the fact that its dietetic cause is food so prepared as to insure against all but accidental infection with saprophytes. In short, the one constant factor in the production of the disease seems to be the deprivation of vegetable food and, particularly, of acid fruits. Beri beri is said to represent a precisely opposite dietetic deprivation, the lack of meats, etc., and the overuse of cereal food, especially rice. It does not appear that we can limit the causation of scurvy to any one constituent of fruits. Almost any tart fruit or even potatoes may be used as a cure, without reference to its exact chemic composition.

In a large volume edited by Edward Cavendish Drake and published in London in 1766, I find a number of cases of scurvy described. An extract from the diary of seven sailors left on the island of Spitzbergen, in 1634, is appended as being an excellent description of the disease in its worst clinical form.

"They now saw plenty of bears every day . . . but were so weak that they could not handle their guns . . . much less could they have pursued any they might have wounded, for they were scarcely able to put their feet to the ground, their gums were swollen, and their teeth so bad that they could no longer bite their biscuit, and were afflicted with the most severe griping pains in the guts and loins, which was considerably increased by the cold; they were likewise troubled with the bloody flux and spitting of blood." Only one of the seven was able to move about and get food. A week or so later, their journal ended with the observation that "four of them were still alive, lying flat on the ground, having stomachs to eat, if any one of them could have served the others with food." It is thus, somewhat doubtful whether death resulted from scurvy alone or from inanition; still, when the bodies were discovered, a year later, part of a dog's body laid out to dry and the carcass of another dog was found in the tent, showing that food was not absolutely lacking.

Obviously, nothing approaching this clinical picture can be expected at the present day, in

parts of the country where a highly varied diet can be obtained as cheaply as a meager one. The absence of a specific germ or of a demonstrable chemic or microscopic state of the blood or other tissues, renders the diagnosis somewhat a matter of opinion. My own is that mild forms of scurvy are not at all rare and I believe that I have encountered a number in the last few years, though I have notes of only two, that have occurred lately, since my attention has been particularly directed to the matter by reason of the reports of infantile scurvy that have been published.

Mrs. Zimmerman, aged fifty to fifty-five, has been under my care for eight or nine years, for a variety of ailments. She has no children and her husband is home only at night. Like many other women with few family cares or other occupation, she has acquired the habit of tippling, and for the last four or five years has consumed from half a pint to a quart of whisky a day, and has been more or less intoxicated a good part of the time. She has eaten very sparingly and has neglected to have a variety of food and to keep her house warm. Her disposition has rendered it impossible for her to have help more than part of the time. Occasionally she has been sober and in fair health for several weeks continuously, though no attempt has been made for several years to secure total abstinence from liquor. She has never had delirium tremens, in spite of two or three traumatisms which would be expected to precipitate an attack. Aside from an enlarged and completely prolapsed uterus and evident gastric catarrh, she has no demonstrable organic disease, though it is probable that liver and kidneys are beginning to degenerate. Dropsy, albuminuria, casts, change in size of liver, enlarged abdominal veins have been looked for in vain several times. For four years the patient has had slight hæmorrhages from the pharynx or œsophagus and about five years ago she had right-sided hemiplegia and aphasia, from which a very good recovery has occurred, especially so far as locomotion and speech are concerned. The skin presents ecchymotic and purpuric spots and there are a few brown spots on the legs. The skin is dry and harsh and, recently, eczema of the scalp and wrists has developed The patient has had hæmorrhages from an ulcer of the cervix uteri, now healed, and from piles, but the latter losses of blood seem to be due to entirely local causes.

Case II. is that of a man of forty, a widower, addicted to drink, though seldom absolutely drunk, and very careless about his habits of life, in spite of being in comfortable financial circumstances in proportion to his necessary expenses. He often misses a meal and has no appetite for fresh vegetables or fruit. Several weeks before consulting me he began riding a bicycle and had several falls and bad bruises. Two or three times he injured the thigh over the trochanter majus and there had gradually developed a swelling ellipsoidal in shape and about five by three and a half inches in diameter. It was very tense and without fluctuation. My first thought was to send the patient to a surgeon to have an abscess treated; but my attention was called to the mouth, in which there was a marked gingivitis, with sordes about the teeth, which were somewhat loose. The gums bled readily. The legs showed a copious eruption of brown spots, representing, as I understand them, old slight hæmorrhages into the skin. The temperature was 98.3 in the morning, the red cells by centrifugalization amounted to 47 and 51 per cent. by volume. (I always centifugalize both tubes and take an average, to eliminate an accidental source of error. Usually the difference in reading is 1 or 2 per cent.) A stained cover-glass mounting of blood showed remarkably few leucocytes, including, however, one eosinophile. In spite of the normal temperature and absence of leucocytosis, I was still suspicious of pus and introduced a sterile hypodermatic needle, withdrawing a clear but slightly reddish fluid. Under the microscope nothing but red cells was seen, bacteria and leucocytes being absent. Two days later another differential count was attempted, but, accidentally, only a small field was available, in which were five multiformenuclears, two large lymphocytes, three small lymphocytes, one eosinophile. Meanwhile, the patient was kept quiet, iodine was applied over the swelling, strychnine and arsenic were given as tonics, and diuretin and cream of tartar to keep the bowels and kidneys acting. Fruit was ordered. Three days later a cover-glass preparation showed ninety-six multiformenuclears, twenty-seven large lymphocytes, forty-two small lymphocytes, four eosinophiles, 57, 16, 25, and 2.4 per cent., respectively. As this showed an absolute increase in leucocytes and a disproportionate number of immature and senile forms, it was decided that the swelling had better be opened. Some grumous blood was removed. After this, the patient gradually improved, no purulent discharge occurred from the swelling, the puncture healed rapidly and the remaining exudate was absorbed As illustrating the dislike of the patient for fruit, it may be stated that, none of the fall fruits on the market suited him, and he even insisted on taking grapes stewed or in the form of unfermented expressed juice.

Case L. remains not much improved, on account of refusal of hospital care and the practical impossibility of supervising the patient's method of living at her home.

I would call attention to two or three points regarding the blood examination, which apply almost equally to other nutritive conditions. The blood examination is not diagnostic in the sense of spelling out the name of the disease, but it is of great value in suggesting abnormal physiologic processes and in aiding the prognosis. Leucocytosis is to be expected after hæmorrhage as well as pus formation, but may be absent in either. The relatively small loss of blood in mild cases of scurvy could scarcely be expected to lead to leucocytosis. An actual count of leucocytes is not often necessary in the class of diseases in which I am interested. A little experience soon makes it possible to gauge quite accurately the amount of leucocytosis. For example, a case in which the diagnosis lay between occlusion of the parotic duct and abscess of a gland over the parotid—and covering almost exactly the area of

the latter—there were found nearly 600 leucocytes in one cover glass and the case proved to be abscess. Each man must, however, become accustomed to his own technique of spreading the film of blood before attempting to draw inferences in this crude way. A short time ago it occurred to me that the staining of the film might be better done by using heat. The trial was highly successful. The cover glass, after being spread and either cooked or extracted with alcohol and ether to remove fat, is heaped up with Ehrlich's stain, placed in a porcelain capsule—I use a butter dish in place of a capsule for most such manipulations, as being much more convenient—and heated over the flame till it steams. After a minute the excess of stain is drained off. This method gives a beautiful emerald color to the nuclei, the eosinophilous granules shine like garnets, and the red cells are really red instead of a dirty brown. To save time, I make differential counts with a dry objective, magnifying about 500 diameters. On writing to Dr. Richard C. Cabot, of Boston, regarding these modifications of technique, I learn that he has used them independently. With regard to counting red cells, I feel that the clinician has not the requisite time. In pernicious anæmia, when the color index and size of the corpuscles are increased, both counting and estimation of volume are of value, but in ordinary cases centrifugalization suffices. One has as perfect and rational conception of quantity from the expression, a peck of beans, as from 1,000 beans. So, with blood corpuscles, the clinician is usually interested to know the quantity rather than the number. The centrifuge is also a check on the leucocytes. With an enormous increase of the latter there will be a perceptible white column in the capillary tube. Still, the various leucytoses rarely show themselves in this way and the white cells must be counted, or at least, roughly estimated separately.

It is interesting to note that both these cases of scurvy were indirectly due to alcoholism, as was another case of which exact notes are lacking, and that the improper diet was due to negligence, not poverty. Indeed, physicians who see much of infantile scurvy state that the children of the very poor, who are usually nursed till they are put on mixed diet, seldom manifest scorbutic symptoms, though coarse food may cause serious digestive ailments. Fortunately, the vegetable which is universally associated with poverty, the potato, is one of the best anti-scorbutics known.

Parrots as Sources of Tubercular Infection.— Bronchopneumonia has assumed almost an epidemic form in Genoa, Italy, caused, it is believed, by infected parrots brought from Brazil. Fourteen persons have been attacked by it, and eight have died. The susceptibility of the parrot to all lung diseases, above all to tuberculosis, is being widely discussed by the medical journals. In Berlin the profession has long been alive to the danger of harboring and petting the parrot, as the malady is often hereditary in the bird, and is aggravated by the close confinement of the voyage to Europe. Even after arrival, it is, for the most part, exposed to unsanitary conditions, under which it contracts tuberculosis and broncho- pneumonia from human sufferers from these ailments. The veterinary school has had 154 parrots under observation, and fifty-four of them have been found by bacteriologic tests to be suffering from advanced tuberculosis.

THE RELATIONS OF DISEASES OF THE EYE TO DISEASES IN GENERAL.

By Charles C. Boyle, M.D., O. et. A. Chir.
Surgeon to the Ophthalmic Hospital and to the Metropolitan Hospital, New York.

THERE are a great many diseases and other conditions of the eye that are not due to troubles commencing in this organ primarily, but to some pathological change existing in another part of the body. The early recognition therefore of the various changes in the fundus of the eye that are discovered by the ophthalmoscope is very imporant as an aid in making a diagnosis which otherwise might have been obscure. By the use of this instrument we detect pathological conditions of the retina and optic nerve that are caused by cerebral disease or of some other organ of the body.

A patient may complain only of a defect of vision, and if, on examining the eye with the ophthalmoscope, we find hemorrhages in the retina, we know that, as a rule, their presence is an indication of an abnormal condition of the system, which has indirectly affected the eye: the only exception to this consisting of those hemorrhages that are of traumatic origin. The rupture of blood vessels in the eye often precedes or accompanies that occurring in the brain, which is undoubtedly due to the close relation existing between the cerebral circulation and that of the eye. One of the most frequent causes of this degeneration of the blood vessels, is disease of the kidneys in the form of chronic nephritis, and if the examination of the urine confirms this, we know that, in all probability the patient has a granular kidney, a pathological condition of this organ that is most apt to produce hemorrhage within the eye. Accompanying the extravasation of blood into the retina, there frequently occurs an inflammatory condition of the optic nerve and the retina, thus presenting a typical ophthalmoscopic picture of Retinitis albuminurea. When this is seen, we can safely say that the patient will probably die within a year's time. This appearance presents itself in about one case in every four of this form of kidney degeneration, and it is a well-known fact that this disease is frequently detected by the ophthalmoscope in cases, in which its course had been so insidious as not to have been suspected, until defective vision had caused the patient to consult a physician. In diabetes, hemorrhages often occur in the retina, accompanied sometimes by other pathological changes in the fundus of the eye, which may somewhat resemble those resulting from kidney disease, but the difference is easily recognized. Loss of vision in diabetes is occasionally due to the formation of cataract, and if this appears in early adult life it may be suspected to be due to this disease, which is readily confirmed by examination of the urine for sugar. Retinal hemorrhages are also observed concomitantly with cardiac troubles, with pernicious anæmia, syphilis and leucocythæmia. In the last disease, the brain, according to authorities, stands second

in frequency as the seat of internal hemorrhages, hence their significance when they appear in the eye in this trouble. In some cases, where there has been a sudden loss of vision, examination with the ophthalmoscope reveals an embolism of the central artery of the retina, which shuts off the supply of blood to the nerve fibres, thereby causing the loss of vision. In such cases, there is reason to apprehend the occurrence of this same condition in the blood vessels of the brain, and when symptoms of cerebral softening follow the appearance of an embolism of the central artery of the retina, there is little doubt that the cerebral arteries are similarly affected with embolism. Syphilitic diseases of the eye, play an imporant part by revealing the presence of this poison in the system, which might have remained in doubt but for their manifestations in the eye, and hence their value in determining a correct diagnosis. If the case be one of cerebral softening, it is sufficient to know, that the patient has a syphilitic eye trouble, and has not reached the period of life at which vascular degeneration commonly occurs: this facilitates diagnosis and suggests an intelligent treatment of the case.

In lesions of the brain in which the symptoms indicate the existence of a cerebral tumor, the coexistence of a syphilitic trouble in the eye, not only serves to confirm the diagnosis of the presence of a tumor, but also the assurance of its being a gumma. The recognition of the various changes to which the optic nerve and retina are subjected, as the result of pathological changes occurring in other parts of the body, is often of great assistance in reaching a satisfactory conclusion as to the original cause of the trouble. An optic neuritis is more frequently found accompanying tumors of the brain, than any other form of cerebral affection. It is present in four-fifths of all such cases, and therefore, when it is discovered by the ophthalmoscope, and is attended by other confirmatory symptoms, it is almost conclusive evidence of the existence of a morbid growth within the cranium.

Next in frequency, as the cause of optic neuritis, is meningitis, especially when it principally affects the base of the brain, but the papillitis is usually less intense than that caused by a tumor. Cerebral abscess is another productive cause of an inflammation and swelling of the optic nerve, and its location bears an important relation to the appearance of a neuritis. If it is small and located in the upper and anterior part of the brain, it is less apt to be followed by the morbid changes of the optic nerve, than if it should occur in the interior or under surface of the cerebrum. In two cases in which death followed an abscess of the frontal lobe, I had an opportunity of examining the fundus of the eye by the opthalmoscope, a few hours previously; there was nothing abnormal to be discovered except a slight congestion of the veins of the optic nerve. In another case in which the autopsy showed a large abscess of the inferior portion of the middle lobe, the ophthalmoscope revealed, before death, a very marked papillitis in both eyes. In a case of a child, whose death was undoubtedly due to a cerebral abscess, the result of mastoid disease, I examined the eyes a few hours before death, while the patient was in a comatose condition, and discovered a very marked swelling and congestion of the optic nerve and retina, and although unable to have an autopsy, I did not hesitate to declare as the cause of death, an abscess of the brain. We occasionally find an optic neuritis accompanying chlorosis, albuminuria, lead poisoning, anæmia, and also after certain acute fevers. Loss of vision, usually brief in duration, may occur as the result of certain toxic blood conditions, especially that of uræmia. It comes suddenly, patient blind on awakening, usually with dilatation of the pupils. In these cases, as a rule, where the loss of vision is of short duration, the ophthalmoscope shows nothing abnormal, and it is in just such cases that the urine should be examined before giving an opinion as to cause. Hysteria is an important factor in cases of sudden loss of vision, and should be suspected if there are no symptoms present pointing to something else. Poisoning by large doses of quinine may produce temporary loss of vision: the same with acute anæmia. In the former, the ophthalmoscope will show a congestion of the optic nerve, in the latter, there will be pallor of the nerve. In an optic neuritis, coincident with a cerebral tumor it is very necessary to watch the increase or decrease of the inflammatory condition of the optic nerve, as the well-known changes which the neuritis undergoes will coincide with similar changes taking place in the cranial cavity. If the papillitis subsides, it is a sign that the tumor is diminishing; while if the latter is increasing in size, there will be a corresponding increase in the neuritis. This will eventually pass into an atrophic condition with loss of vision, unless death should supervene before this stage is reached. Children are frequently brought to us with total loss of sight, and the ophthalmoscope shows atrophy of the optic nerve as a result of basilar meningitis: there is no help for these cases. Various conditions of the eye are due to disease of the spinal cord; atrophy of the optic nerve is among the most common of them. A great many instances of this occur in locomotor ataxia, and they frequently precede the appearance of the disease itself. Careful statistics show that the proportion of the cases of simple atrophy in which spinal symptoms of any kind can be recognized, is about one-half; and when it does occur, it is more apt to be an early than a late symptom, occurring before, rather than after the difficulty in walking has become apparent. Under these circumstances, the failure of sight usually commences with peripheral limitation of the field, but sometimes central acuity fails early. The course of atrophy is slowly progressive and, in most cases it ends in partial or total blindness: it is possible to check its progress, and improve the vision somewhat. In some cases, loss of vision is sudden, without any discoverable changes in the optic nerves at first, but later on the atrophy will show itself. Rarely is one eye alone affected, but the atrophy may be more advanced in one than in the other. In locomotor ataxia, the ciliary muscle of the eye is often affected by

what is termed the "Argyll Robertson" pupil, in which there is a loss of the reflex action of the pupil to the stimulus of light, although it contracts on using the act of accommodation. Occasionally there is a paralysis of the ciliary muscle, causing a dilatation of the pupil and loss of accommodation. Sometimes we find a very small pupil, and again irregularity of the pupils. Paralysis of the recti and oblique muscles is common in tabes, it may appear as a transient affection, or continue permanently, and be confined to a single nerve or part of a nerve: when these muscles are affected, diplopia occurs as a symptom. The external recti are more apt to be involved than any other, although one or all of them may be paralyzed. Paralysis of some of these muscles may also occur as a result of a cerebral lesion, as in "conjugate palsy," and manifesting itself by a deviation of the eyes towards the side of the brain lesion, and away from the side on which the general paralysis is seen. This is due to a loss of power of the external rectus of one eye, and of the internal rectus of the other. A lesion of the pons in the region of the nucleus of the sixth nerve accounts for this phenomena. The ophthalmoscope may be used, among its many beneficent powers, as a means of determining the actual presence of death whenever doubt exists. A few minutes after death the capillary redness of the optic nerve disappears, and its surface assumes the whiteness of paper. The arteries cease to be recognizable upon the disk, and appear to commence at its edge. This indistinctness, due to the expulsion of the contained blood by contraction, extends quickly towards the periphery, and they are soon indistinguishable. The choroid too, changes its color; in dark eyes it acquires a yellow-brown color, and in lightly-pigmented eyes it assumes a pale, reddish yellow and sometimes gray tint. Five or six hours after death the progressive opacity of the media prevents further observation.

CYLINDRICALLY CELLED CARCINOMA OF THE NARES.

By Ernest B. Sangree, A.M., M.D.

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THE case of adeno-carcinoma of the nares, reported by Dr. F. E. Hopkins, in a recent number of the The Medical Times, reminds me that three years ago I had a case of carcinoma of the nares, which I have never reported. A woman of forty-eight was brought to me in Philadelphia, where I lived at that time, from the eastern shore of Maryland. The cause of her coming was pain in the right side of the face and head. Her face was asymmetrical, the right side being somewhat larger than the left. The right eye protruded slightly, and half an inch below the margin of the lower lid was a nodular growth about half the size of a filbert. Although I suspected a malignant growth in the autrum, yet in order to see whether it might not be an abscess, I passed a stout probe through the socket of the second upper molar tooth. This performance was made quite easy by reason of the fact that she had no teeth above on that side, and that the bone was so soft it offered hardly any resistance. The probe met with a soft, yielding, but formed substance in the autrum, and no pus came away. I next examined the right nares and found a fungoid, easily bleeding, rosy-red growth springing from the inferior turbinated. Some of this I removed with a snare, hardened and sectioned it, and discovered the growth to be a cylindrical celled cancer. I then told the friends that nothing in the way of an operation could be done with benefit, for the evidence plainly was that not only the autrum, but the orbit and probably other structures as well, were infiltrated with the neoplasm. They promptly took her to another man who knew more about the knife than he did about the microscope, and he performed some very considerable operation; but of just what character I did not learn. As soon as the poor woman recovered from the immediate effects of the operation she returned home and died in less than three months. Although I cannot positively aver that this was a primary carcinoma of the nares, the character of the cells and the general relationship of the parts lead me to think that the growth began on the inferior turbinated and spread by continuity to the autrum and thence to the orbit.

DR. JONES' REVIEW.

Editors of The Medical Times:

The following correspondence will explain itself:

Never-Mind-Where, Nov. 13, 1897.

Dr. S. A. Jones, Ann Arbor, Mich.

Dear Sir: The review of the new Pharmacopœia came to hand this morning. As a review of a worthless book it is all that I could ask, but I cannot publish it in the"—it doesn't matter what—"(as it stands) for the reason that it also takes in the American Institute. . . .

"A severe use of the blue pencil would make the paper," etc., etc.

Signed. No-Matter-Who.

Ann Arbor, Nov. 14, 1897.

"Dear Mr. Nondescript: I can fully understand your dilemma, and I appreciate it to a greater degree than you perhaps are prepared to believe; but I cannot allow the whitewashing of that devil's device, the 'blue pencil.'

"If the firm of Invertebrata & Co. had bought the reviewer's manuscript, it then became their property; and, as is the custom with purely literary magazines, they might elide to suit their policy. As it is, I can but ask for the return of my review. I owe that to myself; and I keep a strict account with that particular creditor!

"As I count upon the return of my 'copy' on your receipt of this, I will make a few statements concerning our differences of opinion regarding my paper.

"1. I know no law, human or divine, that condemns a bastard and holds its progenitors unaccountable.

"2. The American Institute of Homœopathy has declared the 'Pharmacopeia' official, and has *commended* it to all professional classes and conditions. Are not the officials and the Institute responsible for this?

"3. Any members of the American Institute of Homœopathy who consider themselves stultified by the action of the officers and committees of the said organization are not debarred from repudiating this devastating official commendation and this disgraceful pretense called a 'Pharmacopeia.'

"4. As a homœopathic physician and as the peer of any member of the American Institute of Homœopathy my right to enter my protest is inalienable; and I owe it to myself to utterly repudiate the spurious homœopathy and

the sham 'science' in this official 'Pharmacopeia,' for which I, as a homœopathic physician, can and will be held to account by every qualified reader thereof.

"5. The rack and the gag are out of place in this nineteenth century—the American Institute of Homœopathy to the contrary, notwithstanding. SAMUEL A. JONES."

Thus, Messrs. Editors, finding myself so decidedly *e pluribus unumish*, I ask of you that leaden utterance which the spirit of fair play denies me while the "trade winds" are blowing such a gale! "And your petitioner will ever pray," etc., etc. SAMUEL A. JONES.

THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA. By Authority of the National Medical Convention, held at Washington, A. D. 1830. Philadelphia: John Grigg. 1831.

PHARMACOPEIA OF THE AMERICAN INSTITUTE OF HOMŒOPATHY. Published for the Committee on Pharmacopeia of the American Institute of Homœopathy. Boston: Otis Clapp & Son, agents, 10 Park Square. 1897.

The time has been when the words "physician" and "scholar" were synonymous. It did not, indeed, follow that every scholar was a physician, but of a certainty every physician was a scholar. That time is long since past; for in these United States, where everything is of such rank and rapid growth, the physician who is also a scholar is the exception rather than the rule. Be it understood that by scholar is not meant the diplomaed dolt whose parchment "reward of merit" is the only evidence of scholarship in *his* possession, nor is it to be inferred that scholarship is to be attained only in the academy and college. We have heard of a "learned blacksmith" who was graduated, *summa cum laude*, amid the din and the soot of a smithy. The deteriorated article is an American product; it is also one of the first results of the rupture with the mother country.

Perhaps the two works above cited are the best evidence of this deterioration; and it is with a sense of humiliation that the contrast is acknowledged. It is not hard to tell the truth when that doing merely "shames the devil;" but what if in so doing we are obliged to place ourselves in that Satanic category? However, the truth is the truth, cost whatsoever it may to utter it; and if comparisons are "odorous," it is only so much the worse for the odorous element.

The 1831 edition of the *Pharmacopœia of the United States* is the second issue, the first having been published in 1820. The proposition that led to its preparation and publication was made by Dr. Lyman Spalding in 1818. The need for a National Pharmacopœia had long been felt, and *within three years* the *united* profession of American physicians had supplied the want! There was then no National Medical Society; *that* apparatus (which can be a boon or a blight) was not then existent—a fact which we commend to the consideration of whomsoever it may concern.

In 1868 the American Institute of Homœopathy "resolved" that there should be prepared a *Dispensatory which should embrace Pharmacy*. Thirty years later the "Committee on Pharmacopeia of the American Institute of Homœopathy" *delivers the goods*—showing the outcome of this "embrace." The offensive inference is that there is something of a difference in the editorial apparatus employed by these two bodies-medical. It is not only a difference in the celerity with which they did their work, the element of quality enters, and—well, the homœopath isn't flattered when he makes the comparison. Nor is the "Committee on Pharmacopœia of the American Institue of Homœopathy," if this reviewer is any judge.

Is it an accident that both of the works above mentioned begin with an *Historical Introduction*, or did that feature in the older suggest that it were well to incorporate a like feature in the homœopathic "Pharmacopeia?" As imitation is said to be the sincerest flattery, isn't our "Committee on Pharmacopœia" open to the suspicion of atleast coquetting with the Egyptians? But even in this *imitation* (which, dear reader, is by no means an *Imitatio Christi*) a most damaging difference is all too plainly apparent. In the first place, a "long felt want" is declared to be the occasion of the preparation of the older work, and the declaration is true; history proves it so. But has the "Committee on Pharmacopeia" the effrontery to tell us that such a "want" existed in the case of the product of this "protracted gestation" of thirty years! Does this "phenomenal" committee dare to even insinuate that the homœopathic profession in these United States were in "want" of a pharmacopœia! Not even the American Institute of Homœopathy has the turpitude for that, as that august body *does* recognize certain of its own limitations, *ex neceessitate*, if not *ex humilitate!* If the American Institute of Homœopathy *itself* felt the "want" of a "Pharmacopeia" in the *face of the fact that literature of such nature was already amply existent*, then of a surety its "want" is not physiological, but pathological, and the thing now offered to supply its craving proves its hunger to be only the "pica" that often characterizes a spurious pregnancy. Isn't it a pity that in the economy of Nature a bunch of watery hydatids can cut as big a figure as the womb that holds a Plato? But when the delivery comes matters are "evened up," and the mole pregnancy is not followed by any birthday celebrations!

Observe one very significant distinction between these two publications: one is the "Pharmacopeia of the *United States of America*" the other bears a widely different legend on its escutcheon, it is the Pharmacopœia of the *American Institute of Homœopathy*. The one is national, the other, parochial; the one represents a profession, the other a faction. The difference is far-reaching; one work is prepared *for* the profession, the other is attempted to be *foisted upon it*; in one work the profession is represented in fact and in fullness, in the other there is not even the pretense of this catholicity. And, further, the committee that prepared the older work contained no "dummies;" the committee of the American Institute of Homœopathy has dummies "to burn"—if, alas! they are not too green! If any one inclines to regard this utterance as an idle or a spleenful judgment, the present reviewer is content to simply offer the "Pharmacopeia" itself in evidence.

There is still another difference to be *felt* by him who reads the two *Historical Introductions*: the older one is frank, open, unambiguous; the other simply is pitifully wanting in each and all of these high qualities. To be sure, one cannot distinctly see the trail of anything ophidian, but there is a rustling in the dry leaves of the book that is painfully suggestive. There is also an implication in the later work that reflects upon the memory of "the noblest Roman of them all"—as if he would withhold any manuscripts that pertained to the welfare of homœopathy! Perhaps he was more jealous of the honor of homœopathy than many of those whom death appears to have disdained; perhaps, too, such "manuscripts" as he may have painfully wrung out of certain aridities which infest our societies, could only have disgraced the American Institute of Homœopathy by their publication—as they have now done. Perhaps, too, it was a benign dispensation that called him hence ere the days of arrogant, impotent and impudent disbelief had fallen upon the homœopathy which he believed in precept and verified in practice. Perhaps, yet again, these forebodings of the reviewer are substantiated by even this "Pharmacopeia."

There is yet another difference, which it is to be feared the American Institute of Homœopathy may not appreciate at its actual worth, namely, the evidence of that ripe scholarship in the older work which is "conspicuous by its absence" in *the* "Pharmacopeia." But scholarship 'cuts no ice" in the Institute, and only a gumph expects that quality to cut any figure in its pharmacopœial output.

It cannot be denied that we are largely the creatures of circumstance, that prenatal influences affect the offspring, that heredity and environment are potent factors for good or evil, that from all these elements of fate and fortune flow their inevitable consequences; therefore, the American Institute of Homœopathy is *what it is* and its "Pharmacopœia" precisely what it is.

And what is it? Simply and only a bulky pretence. In the matter of paper and typography it is all that could be desired; but while a suit of clothes from a "swell" tailor-shop may serve to deceive in society, they certainly will not in science. Ignoring, then, the borrowed "full dress" suit, and looking at the naked book one is instinctly reminded of the old rhyme:

> You are so very quickly done for
> One wonders what you were begun for.

It is said by political economists that many a child owes its genesis to insomnia and mosquitoes, because, if a man can't sleep, he's got to be doing something! It seems possible that now and then a book is begotten from the same "pure cussedness."

But we are not going to pay this pompous pretender the tribute of a methodical review in the truly critical sense of

that word. One doesn't shoot gophers with a Parrott gun; cheaper ammunition suffices for that species. This book is not worthy of critical attention; just as some "stiffs" are too rotten for a post-mortem examination; even an avaricious coroner dodges such jobs, contenting his official conscience with the declaration that he found the body unmistakably—dead! We shall, then, indulge in a few "glittering generalities," but we can readily furnish glaring *particularities* upon "official" demand.

The grand characteristic of this "Pharmacopeia" is the absence in it of what may be termed the *consciousness of knowledge*. In other words, it impresses one as being prentice work; the firm and confident touch of a masterhand is not perceivable. The whole book impresses one as if it had been written under the restraint of uncertainty, or, one might rather say, the *strain of uncertainty*; as when one is walking upon a slippery sidewalk and momentarily dreading a tumble. At the same time there is an affected air of security which one feels assured the "editor" has assumed. Yes, the qualified reader quickly discerns that the said "editor" does not really *know* whether he is a-foot or on horseback.

Page 13 of this inflated pomposity called a "Pharmacopeia" is devoted to the presenting in capital letters, the names of the committee which is to be held responsible for this anencephalous monstrosity—and were ever twelve homœopathic M.D.s so pilloried since time began? Appropriately, the list of the editorial sub-committee appears below, as if its own brazen ignorance were not sufficient to sink it deeper than ever plummet sounded.

But let us for a few moments look at the thing for which the homœopathic profession must stand responsible as an accessory after the fact, if it does unmistakably repudiate this "Pharmacopeia."

In this bloated bulk of a volume there is an affectation of learning that can deceive only the unlearned; there is all the pretence of pedantry without the stock in trade that really constitues a pedant; and the desire to make a pitiful display of pedantry without the cheap material is perhaps the most vexing of all futilities—not indeed to him who makes the attempt, but to the modest scholar who has such an attempt thrust upon his notice. As a scientific treatise, for such a pharmacopœia is if it be worthy of the name, this book is characterized by such an utter lack of homogenity that one is really perplexed to account for its genesis. If it is, despite the fiction of an editorial sub-committee, the work of one editor, he has certainly "crammed" for the occasion, and the result is a literary lientery, and, as usual in these cases, the discharges "smell to Heaven" as such indigestion always do. If, on the other supposition, it be the conjoint doing of several editors, it is difficult to say which of them is the most unfit for his work. Not one in the "whole shooting match" has shown any competence; even so mechanical matter as the bibliography is incorrect, incomplete, and its faults reach even to the reading of the "proof." Personally, this reviewer inclines to the belief that this phenomenal "Pharmacopeia" is the freak of one editor, and he a "daisy!" If he has had any aid (?) from others, he has most assuredly simply played havoc with it. Appearances are said to be deceitful; nevertheless, if the editorial sub-committee has done its duty, then, either the final result does not show it or that committee does not know what its duty is. In the plainest of English be it declared that all through this "Pharmacopeia" there is the between-the-line evidence that a one-man power is at work, a power behind the throne (of the committee). a bungling Mephisto, who manipulates some poor, "hell bent" Faust.

As the fountain cannot rise higher than its source, we now have the evidence that this law of hydraulics holds good also in homœopathic literature. Beside this, which in itself is a fatal objection and a defection that can bring only disaster, there remains another and a terrible condemnation for this "Pharmacopeia," namely, it is conceived and executed in a spirit that violates the catholicity of both truth and Science. Let it not be overlooked that the American Institute of Homœopathy is simply *usurping* the right to speak authoritatively for the homœopathic profession in these United States. The American Institute of Homœopathy *does* not represent the profession. The American Institute of Homœopathy has not asked the profession to participate in the preparation of a pharmacopœia that should be accepted as representing the views of a proper concensus of the whole profession. The American Institute has virtually said: "We are the people!" By actual count of noses this is simply "talk for Buncombe." In view of all this, what must any fair-minded man think of the last paragraph in the "historical introduction" to the non descript "Pharmacopeia."

"For the purpose of diffusing useful knowledge, and of promoting uniformity in the strength and quality of medicinal preparations, and in their literature as well, we *commend* this book to physician and pharmacist, student and instructor."

This pretentious commendation is actually put forth over the names of the president and secretary of the Institute; they have the hardihood actually to "commend" this pitiful pretense to physician, pharmacist, student and instructor—as if their *imprimatur* made it what it certainly should be and most assuredly is not.

Pemberton Dudley, M.D., president, and Eugene H. Porter, M.D., secretary of the American Institute of Homœopathy must be held to the very letter of their conjoint commendation; there must be no jugglery with words allowed them, nor any official hypnotism permitted them; by that which they have written and put forth to the world must they stand or fall; this matter is now beyond the machinery of any Institute "ring,' however deftly manipulated; the appeal is unto Cæsar.

Here, then, is a sample of the work that is *commended* to the "instructor." (We take the first that comes to hand upon opening the book.)

ACALYPHA INDICA (Indian Acalypha).

Natural Order—Euphorbiaceæ.

Synonyms—*Latin*, Acalypha canescans, A; ciliata, A; spicata; *English*, Indian needle; *vernacular*, Cupameni, Koopameni, Shwet-busunta, Moorkanda.

Description—An annual herb, 2 feet high; stem round, smooth, branched; leaves ovate, acuminate, serrate; green flowers, axillary spikes; sterile above, fertile below. Flowers July to September.

Habitat—Common in gardens in India, found on dunghills; said by Dr. Henry Thomas to have been "first discovered in Vera Cruz, where it inhabits marshy places."

History—Name derived from the Greek, signifying nettle. A common remedy, it was introduced into the homœopathic materia medica by Dr. Tonnere (1856), Hom. Month Rev., London, I. 256. Allen's Encyc. Mat. Med. I. 3.

Parts Used—The fresh plant.

PREPARATIONS

a. Tincture: Drug strength, 1-10

Acalypha indica, moist magma, containing solids 100 gm., plant moisture, 300 Cc. = 400.

Strong alcohol 730 Cc, to make 1,000 cubic centimeters of tincture

b. Dilutions: 2x to contain one part tincture, two parts distilled water, seven parts alcohol; 3x and higher, with dispensing alcohol.

c. Medications: 3x and higher.

As this is read, it rolls readily off the tongue, and like the old woman's *Mesopotamia* "sounds beautiful," but, alas! it is only one of the lienteric discharges before mentioned. Observe, first, that *Acalypha Indica* is translated into English as "Indian Acalypha." This translation, then, settles definitely the *species* employed for medical purposes; it is the Indian acalypha. But among the imposing and learned array of "synonyms," the editor introduces other species; his "A. *ciliata*" is by no means a *synonym* for the Linneæan *Acalypha Indica*. If the erudite editor simply aimed to paralyze us with his learning, and if his little game is to fling at us the names of a *genus* for the "synonyms" of a *species*, why didn't some of the duodecimo committee provide him with the list: A. *amentacea*, A. *betulina*, A. *carpinifolia*, A. *fructicosa*, A. *hispida*, A. *virginica*?

(If it were not for a pair of active kidneys, I could drop a briny tear over this heartless throwing-away of a golden opportunity. The American Institute has certainly lost a brilliant scintillation. *Six* shining "synonyms" sacrificed in one deal! Alas! there goes sympathetic tear, splashing the keys of our astonished Hammond, and if this agony keeps up the kidneys will be "in it," too! We can but hope that the president and secretary are made of sterner stuff!)

What it is that meets our wondering eyes! "*Vernacular*, Cupameni, Koopameni, Shwet-busunta, Mookanda."

Indeed! The "vernacular" is the common tongue, and therefore the prevailing one. A *dialect* is not the *vernacular* by any manner of means. It happens, in this instance, that the *vernacular* name for Acalypha is Shwet-

Busunda (*Sanscrit*); Moorkanta is a *Bengalese* word and Cupameni, a *Telegu*.

Why didn't some of that 12mo. committee inform the editor that the language of India is derived from three separate stocks: the Dravidian, Kolarian, Tibeto-Burman; that the Dravidian stock has twelve dialects, the Kolarian nine and the Tibeto-Burman twenty? O cruel fortune, what a shower of "synonyms" we could have had instead of this feeble drizzle!

(Just as we expected, the kidneys have relented!)

And with what sweet and winsome indifference the editor displays his imbecility when he is confronted with diverging statements! For instance, he quotes Dr. Thomas, of Chester, England, to the effect that the *Indian* acalypha was "first discovered in Vera Cruz, where it inhabits marshy places." Three lines above he had just written, "Common in gardens in *India*, found on dunghills." That the "habitat" could be so dissimilar (marshes, gardens, dunghills) does not suggest to this sapient editor a difference in species, as there actually is; for Dr. Thomas refers to Acalypha *carpinifolia*. How an East Indian product could possibly have been "first discovered" in the West Indies, and how a species that is not found in Vera Cruz could be in any conceivable manner "discovered" *there* are not difficulties to an editor of the A. I. H. variety.

But this editor's vagaries do not end with this *tour de maitre*. When he corruscates after his farthing-candle fashion in the "History," he is simply blinding. That any power of discrimination is essential to editorship is no part of his creed. On the authority of a booklet published in 1858 he accepts the unsupported "say so" of a mere compiler rather than the evidence of the only proving of Acalypha Indica ever made; that by Dr. Tonnere. As this proving was published in 1857 and Dr. Thomas's fragmentary compilation in 1858, a trifling mental effort would have shown our editor where and how far he was 'off his base." Perhaps, however, it is just that sort of knowledge which both editor and Institute have no use for; but the *need* makes it very desirable—as we must beg both editor and *Institute* to make an extraordinary effort to comprehend.

It is as a *linguist* that our editor is resplendently refulgent; though his modesty leads him to carefully conceal his knowledge of the Greek alphabet and to eschew employing it where your mere scholar *would use nothing else*. This is doubtless one of the eccentricities of genius which common folk must abide in silence. He informs us that the name Acalypha is "derived from the Greek, signifying nettle." Now it is well-known that knowledge is sometimes embarrassing, it restricts the freedom of expression, if one cares a whit for the responsibility of his utterance. But our editor rises grandly above such trifles as word derivations. For instance, there is a Greek word signifying "unveiled," and there is another word, also Greek, that is correctly translated "nettle": from which of these *Acalypha* is really derived careful linguists do not dogmatise; but our editor proudly soars above the restrictions of mere scholarship, whereupon the American eagle screams with delight. (And so do certain readers who are not awed by the pseudo-prestige of "Institutes" as they know them!)

There is yet another feature concerning which we are obliged to seek information, to wit: the amount of "plant moisture" that is said to be found in 100 grammes of *fresh* Acalypha Indica. Where did our editor learn that the quantity is exactly 300 cubic centimeters? Was this determination made in India, with the genuine Acalypha *Indica*, or was it done in the West Indies with Acalypha *carpinifolia*. If either determination was not made where the plant was gathered, but elsewhere, then the plant had necessarily lost some of its radical moisture during transit and, therefore, the determination given in the "Pharmacopœia" is incorrect, *if any determination was made*, which is questioned—and what is it *if no determination has ever been made?* What is it if the determination of the plant moisture in this special instance has been simply evolved from the inner consciousness of some aspiring scientist for this unparalleled "Pharmacopeia?" A vulgar man would call it a lie, a polite man would christen it a mendacity, a qualified man would recognize it for what it is, regardless of names!

Such then has been this reviewer's experience with only the third page of Part II., *Special Pharmaceutics*. What were the outcome if he went through the 546 pages of such immitigable stuff as the "Pharmacopœia of the American Institute of Homœopathy?"

Living in a city that has some repute for its School of Pharmacy, it has not been difficult for a much-disgusted reviewer to enlist for service a pharmacist, to name whom would make the American Institute's Sub-Committee "hunt their holes" with commendable celerity. I shall, then, proceed to give some little from the notes of this authority as they were called forth by his reading of the "Pharmacopœia."*

"It would appear," writes our somewhat satirical friend in the notes with which he has favored me, "as if many of the determinations of plant moisture, and especially of those that are obtainable in the fresh state, have been made by a competent person; but from certain inaccuracies, it is more than doubtful if all of them have been determined by the same investigator. I am impressed with the conviction that some incompetent dolt has had a finger in the pie.

"It is by no means apparent that the sub-committee really *comprehends* the allowance for contraction of volume in the tincture formulæ.

"The chemical descriptions, processes and tests of purity bear the earmarks of a tyro. If this book was prepared by any who really know how to compound chemicals, it would appear that their chief aim has been to keep this knowledge to themselves, or, at least, from the pharmacists who are supposed to be obliged to follow their bewildering processes. On page twenty-one I find this 'delicacy:' 'The physician . . . will find detailed information concerning the sources, natures, collection and preparation of drugs.' This is intended for the physician 'engaged in preparing his own medicines!' Does your national society really mean to hold itself responsible for this unqualified *rot?*

"The botanical descriptions in the book are—no; out of regard for you, I will not call them 'homœopathic;' they do not evince even a homœopathic knowledge of botany. With very few exceptions, they include only the specific characters, and are therefore of no use to the mere pharmacist for the identification of plants; for he must first be able to determine the Order and Genus. No information is given regarding the characters of Class, Family, Genus or Sub-genus. Calyx, stamens, pistil, style, stigma, anthers, pollen, etc., are faithfully and *fearlessly* ignored. The descriptions impress one as having being copied, with strikingly original modifications, from the final paragraph of some botanical text-book.

"Indeed, when they could find nothing to copy from, the authors of this Pharmacopœia are in a shocking plight. In illustration of this, read *Cactus grandiflorus*, p. 166, and compare it with their treatment of *Cereus Bonplandii*, p. 196. These products belong to the natural order—the Cactaceæ, yet on these pages one figures as Cactus Grandiflorus and the other as Cereus Bonplandii. In the synonyms, however, Cactus Grandiflorus becomes *Cereus Grandiflorus*, while Cereus Bonplandii gyrates as *Cactus bonplandi*. (What a curious phrenological development an 'editor' must have who can 'pass' a proof that prints Cactus Bonplandii, bonplandii!! Imagine what a poke in the ribs the Shade of Linnæus must have given M. Bonpland: if, indeed, the departed ever look into homœopathic literature—for *science*).

"The capitalization of the Latin names of plants is declared, p. 22, to be based upon the 'latest' rules; presumably those of the International Botanical Congress, Paris, 1867. The American Association for the Advancement of Science adopted these rules at the Rochester, N. Y., meeting; and subsequently, at Madison, Wis., in 1893, directed that specific names derived from names of places should begin with a capital. The editors of the Pharmacopœia have endeavored to conceal what they don't know by the use of the largest capitals for *every letter;* but in the spelling of the so-called 'synonyms,' and in the list of names with the pronunciation, in Part II., no heed is given to these rules. In fact, in the text of Part II. even the generic names are sometimes printed with a lower case initial; for instance, we are informed that Cocainum Muriaticum 'is prepared from cocain—an alkaloid of erythryroxylon coca—and hydrochloric acid' Of course it should be Erythroxylon Coca; but your editors do not pause for such trifles as these!

"Turning to the portion of this book which I suppose is the most distinctively 'homœopathic,' I am worse than confounded by what I find. For instance, at p. 35 it di-

* These notes fill sixteen closely typewritten pages of letter size, and not half of the "Pharmacopeia" is gone over. E. A. J.

rects that 'the anhydrous acid or drug shall be taken as the unit of strength.' If you will look at *Alumen* and other drugs containing water of crystallization, you will find this cardinal point disregarded with an indifference that is simply fatal to any pretension to science.

"In a word, my homœopathic friend, if your national society can afford to acknowledge this peculiar 'Pharmacopeia' as *official*, it is most assuredly indefinitely postponing that recognition which an unbiased scientific man will award to any truth, the advocates of which do not disdain the plainest truths of other sciences."

Cold comfort this for a reviewer who is nothing if not a homœopath, but who is distinctly not such a homœopath as they who are foisting this disgraceful conglomerate of "clotted nonsense" upon those who, God save the mark! are even more ignorant than they show themselves to be.

Tried by this "official" Pharmacopeia, the American Institute of Homœopathy is too much of the "tall bully."

("Where London's column, pointing to the skies,
Like a tall bully lifts its head and—lies!")

It is not an Institute of Homœopathy; it is only an organized subverter of the Faith of the Fathers and the Founder. As it is, of Science, it is only a pitiful travesty, and of Homœopathy, not a pitiful, but a despicable pretense. It is to be arraigned before the bar of a common humanity—common because sickness, suffering and death are the common lot. It is to be arraigned there because it is only obscuring and defiling and sophisticating the pure truth that has in it, by the experience of countless thousands, that without which the earthly lot of man were even more grievous than it is.

Tried by this Pharmacopœia alone, it is only to be spewed out by every disciple of Hahnemann whose professional ministrations have "been touched to higher issues" and more beneficent, by his teachings and his doings—in the arena as a *philosopher* at the bedside as a *physician*.

Into the Pharmacopœia Homœopathica sundry professional bastards have endeavored to introduce a "confusion of tongues" as regards the nomenclature of homœopathy. Instead of the *lingua familiaris* as it came to us from the lips that never faltered in the defence of the truth of homœopathy, these degenerates, these "sexual perverts"—for in the providence of God homœopathy has sex distinction that is far, far removed from that of the hermaphrodites that do it only dishonor—instead of the *lingua familiaris* of the mother Church, these ingrate imbecilities would thrust upon all of us the strange jargon of their own miserable infidelity—an infidelity which displays only the hopeless degeneration that attends *all* "self-abuse."

Here, on the one hand, is one of the clearest-seeing scientific writers of our day declaring of homœopathy that, "In the laws of nature we find its principles immutably established. . . . The recent researches of Tesla in the field of higher electricity, the new developments in the realm of light and the other natural forces, and the vast enlargement of our knowledge of molecular physics, together with the resplendent results of spectroscopic analysis are pushing the *old, gross, materialized, brute ideas of force and matter* out of sight, and replacing them with entirely new knowledge in the light of which the law of homœopathy is destined to blaze with unexampled splendor—shedding its radiance over an awakening world;" on the other hand, we have that huge pretense, the American Institute of *quasi*-homœopathy presenting *its* immense posterior proportions to the world and asking it to believe that the brains of homœopathy are located *there!*

O brother of mine, thou who reverest the older names that shine as stars in the firmament of medicine, in all fairness I plead for simple justice at thine hand and mouth; judge me not, oh! judge me not by the standard of those who coin base metal and stamp it with Cæsars' image. Can'st thou deny me that!

One man asks of THE MEDICAL TIMES that it publish this as the utterance of *one* man. He alone is to be held accountable for this utterance. He asks the publishing of it in the name of "the old familiar faces" that shone in his sight as he wrote. With *that* vision before him he could do no less; for their sake, would to God he could do all that should be done!

SAMUEL ARTHUR JONES, M. D.

Ann Arbor, November 9th, 1897.

(It is not an open secret, nor is it a sealed one, that this "Pharmacopeia" is published by and for a "trust." This is in exquisite keeping with the eternal fitness of things; for it is written that the Roman soldiers cast lots for Christ's garments—so it appears that some fellows can see "money" in everything!

From the same feeling that would lead even a Christian to give a cup of cold water to the devil, I am led to advise the "trust" to withdraw the book from the market at once. The colleges that have adopted it as a text book will speedily burn their copies and swear they never had 'em, "just you feel my pockets, and see!"

Then the curious in suppressed and such other unspeakable books, will run up the prices—as happens with all unclean things, like Oscar Wilde's novels, etc., and *then* is the time for the "trust" to unload. Verily, there is a time for all things; but the homœopathic trust has gone by the wrong clock! S. A. J.)

HYDROPHOBIA TREATMENT.

Dr. G. W. Pope, of Washington, D. C., sends us the following on the treatment of hydrophobia as practiced by the Indians, which is interesting as well as instructive. The method was successful when applied within forty-eight hours of the bite:

The wound was thoroughly washed with quite warm water to favor a free flow of blood, and then sucked by the lips of the patient or doctor until blood ceased to flow, and the wound was dry as could be made so. Sometimes a cupping glass was used, but the sucking was considered most effectual.

Then the doctor took a teaspoonful or so of common black ink in his mouth, and, applying his lips closely to the wound, slowly and firmly forced the ink into it. Small syringes were not manufactured in those days. Sometimes it was blown through a small straw or goose quill, but there was danger of rupturing the connective cellular tissue under the skin or between the muscles, and the ink would go where it was not needed. Forced in by the lips it would gradually insinuate itself into the skin, cellular tissue or muscle, wherever the tooth entered, and nowhere else. "What is the object of this?" one asks. You will see presently. This ink thoroughly blackened the inside track of the dog's tooth, affording a perfect clue or guide to the surgeon in the subsequent steps of the operation. He then takes scalpel and forceps and carefully dissects down, following the ink stain and nowhere else, until he reaches the bottom of the wound, which truly shows the entire track and limit reach of the tooth.

Then cleansing away the blood he cauterizes the wound from top to bottom all along the ink-stained flesh, and nowhere else—not with silver nitrate or lunar caustic, which only albumenize the flesh, but with fuming nitric acid or a red hot piece of iron (a tenpenny nail or common stove pipe wire will do). This destroys the poisoned flesh immediately. The wound is kept open, dressed with a simple flaxseed or slippery elm poultice until suppuration has ceased, from the bottom, and healing has begun. At first glance this operation seems terribly severe, but who would not gladly submit to it where such important issues of life or a dreadful death were at stake? Cutting through the skin is severe, but cutting the flesh and the subsequent burning is not so severe as many suppose, and the application of cocaine greatly deadens all sensibility.

Those who are not old enough to remember the great meteor swarm of 1866 will have a very faint idea of the marvelous exhibition which is in store for them in November, 1899, unless unhappily the display be obscured by clouds. Every thirty-three years has this crowd of meteors appeared; and, according to Leverrier's hypothesis, they first entered the solar system in 126 A.D. as a globular cluster. In a lecture on the approaching return of the phenomenon, Dr. Storey recently gave at the Royal Institution a history of these meteors, pointing out that they become visible only as they enter the earth's atmosphere, when they become incandescent in consequence of the great resistance offered by the air to their rapid motion. Owing to this motion little can be learned about them save the direction in which they move.

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To-day is not yesterday: we ourselves change; how can our works and thoughts, if they are always to be the fittest, continue always the same? Change indeed is painful; yet ever needful; and if memory have its force and worth, so also has hope.—CARLYLE.

THE OUTLOOK.

NEVER in the history of the world was the outlook so full of promise as at the present. It would almost seem that the scientist has at last found a fulcrum for his lever and is moving the world. Each year brings its tribute to human progress. Fast following the discovery of anasthesia, which made possible in surgery much that was impossible before, came the wonderful development of asepsis, and now, by its aid, almost every part of the human body can be reached by the surgeon's knife, with a fair prospect of recovery. And now, at the close of 1897, comes the greatest triumph ever known even in the fruitful field of surgery, compelling us to change physiological ideas to conform with new facts. Ovaries and wombs have been removed; sections cut from the intestines and the ends reunited; the substance of the brain penetrated and clots and tumours removed, but never before has, what was supposed to be a vital organ, been entirely removed with apparently complete recovery. For the past two months the medical world in Europe has been watching with intense interest the progress of a case in Switzerland in which the entire stomach of a woman fifty-six years old was removed by Dr. Carl Schlatter, of the University of Zurich, the esophagus and small intestine being united by suture and healing very promptly. There was only a slight loss of blood during the operation, which required the utmost care and delicacy of manipulation, and lasted two hours and a half. The operation was performed Sept. 6. The patient for four days was fed by enemas, when she was allowed a little scraped meat. The woman left her bed on Oct. 11, and on Nov. 25 felt quite well and commenced work in the hospital.

Dr. Wendt, in transmitting the report of the surgeon, in his own language, to the *Medical Record*, takes occasion in reviewing the case, to express conclusions which we think the facts disclosed fully warrant. We have heard of a man without a country, and a man without a soul; but never before has a human being so far upset Æsop's fableas to live without a stomach. Dr. Wendt says:

"The human stomach is not a vital organ.

"The digestive capacity of the human stomach has been considerably overrated.

"The fluids and solids constituting an ordinary mixed diet are capable of complete digestion and assimilation without the aid of the human stomach.

"A gain in the weight of the body may take place in spite of the total absence of gastric activity.

"Typical vomiting may occur without a stomach.

"The general health of a person need not immediately deteriorate on account of removal of the stomach.

"The most important office of the human stomach is to act as a reservoir for the reception, preliminary preparation, and propulsion of food and fluids. It also fulfils a useful purpose in regulating the temperature of swallowed solids and liquids.

"The chemical functions of the human stomach may be completely and satisfactorily performed by the other divisions of the alimentary canal.

"Gastric juice is hostile to the development of many micro-organisms.

"The free acid of normal gastric secretions has no power to arrest putrefactive changes in the intestinal tract. Its antiseptic and bactericide potency has been overestimated."

If therapeutics has heretofore been content to move slowly, yielding the victor's crown to its more brilliant sister, surgery, it was in a measure because psychological studies were in their infancy and a long series of facts evolved by the most careful experiments upon mind and matter was necessary to lead up to a therapeutic law which might be called universal, and so thoroughly logical as to admit of no dispute as regards its elementary principle. Much as has been accomplished toward this end, and the records of therapeutics are rich in results in certain lines, we think it will be admitted that much remains for future study before a fundamental law, universal and adapted to every emergency, can be reached. Prof. Gates, the eminent psychologist, whose studies in mind building have attracted the most profound attention of those eminent in men-

tal science throughout the world, says that mind exists in every cell, and is its life. The activities of a cell are psychologic activities, and therefore the regulation of the psychologic activities of cells and multicells is the basis of the long-looked-for and fundamental law of cure. Therein lies the key to the mystery of disease and pain and evil, and therein also lies the Ariadne's clue to health, happiness and success. If, says Prof. Gates, life and physiological functionings can be shown to be a question of cellular psychology, then therein lies the hitherto unformulated law of cure. Prof. Gates outlines, in a series of articles now being published in THE MEDICAL TIMES, the plan upon which his work will be directed in unfolding a universal therapeutic law. He proposes, as time will permit, and opportunity offer, to study the effect of small doses of medicine upon unicellular organisms, to see how each different medicine alters the psychologic activities of those cells, and how, through this psychologic effect, the secretions and excretions of these cells are modified. When once the action of various medicines is understood upon simple protoplasmic bodies, then we shall be better prepared to study the action of medicine upon the multicellular organism. Of course the carrying out of this line of investigation will require time and money. The genius of Prof. Gates has already developed a double microscope of a power never dreamed of before. This microscope can be focused upon the smallest cell in the cortex of the brain, or in any of the vital organs of the body, and its action noted under the influence of thought or the most minute drug action. It will readily be seen that investigations of this kind can best be carried on in a laboratory supplied with abundant pecuniary means to meet the cost of the delicate and expensive instruments necessary. The work will progress with greater or less rapidity as the confidence of the thinking public is elicited, and the attention now being directed to psychologic work is full of promise for grand results in the no distant future.

And so the old year closes with a record on every page of its eventful history of advanced thought and with a clearer comprehension of man, his destiny, and the forces of nature in the unfolding story of the universe. And the new year opens rich in the lessons of the past, full of golden promise as mind every day freeing itself more and more from discord and fallacy blends together the scattered elements of refined thought into the pure, bright, flashing crystal of eternal truth. As we bow in reverence to the past, we hail the future with possibilities yet unfulfilled.

THE TOXIC MATERIAL OF POISON IVY.

IT has long been a generally accepted belief that the material upon which poison ivy (Rhus Radicans, L.) depends for its poisonous action was of a volatile nature, and that persons specially susceptible would become poisoned by simply coming into close proximity to the plant without really touching it. This theory, the *Pennsylvania Medical Journal* says, has recently been proved to be founded on wrong premises, for the poisonous principle has been shown to be a non-volatile substance. Its true nature was discovered by Dr. Franz Pfaff, of Harvard University, who, in 1895, demonstrated it to be a fixed oil, which he named "Toxicodendrol." It occurs in all parts of the plant, and is retained in the woody portion long after drying. Mr. V. K. Chesnut, Assistant Division of Botany, U. S. Department of Agriculture, has an article on some common poisonous plants in the Year-Book of the department for 1896, in which he refers to this plant and makes the following statements regarding toxicodendrol: "Like all oils, it is insoluble in water, and therefore cannot be washed from the skin with water alone. Alcohol dissolves it readily. Alkalies saponify it, and thus render it inert, but this result is more easily obtained by an alcoholic solution of the sugar of lead (lead acetate). Numerous experiments show that when the smallest amount of this oil is applied to the skin it is very gradually absorbed in the course of a few days, and that within certain limits the longer it remains upon the skin the greater will be the effect produced."

The discovery of the true chemical nature of this irritant indicates the mode of action of many remedies, used empirically in the treatment of the dermatitis produced by the ivy. The well-known beneficial effect of a strong solution of aqua ammonia necessarily depends on the same saponifying action as is produced by solutions of lead acetate. Other popular remedies, such as fluid extract of grindelia or serpentaria, doubtless depend upon the alcohol which they contain for the relief they give.

SOME EXCEPTIONAL PHENOMENA IN INTOXICATION.

THESE are described and explained in the *Quarterly Journal of Inebriety* as follows:

Acute alcoholic intoxication is always marked by a general palsy of the senses and reasoning—in all cases degrees of dementia, with profound and progressive palsy, are the marked symptoms. These are so prominent and common to all cases that no one doubts the insanity and imbecility of an intoxicated person. In a certain number of

cases in this condition, there has been noticed sane moments and intelligent reasonings, with clearness of judgment and perception, equal, if not superior, to the highest brain activity in its normal state. In a semi-comatose state, the mind will suddenly display a degree of wisdom and sanity in some opinion or advice, then sink back into its demented condition. Usually these sane thoughts refer to his present condition, though sometimes they concern the acts and motives of others.

These cases show that in the stupor and palsy of intoxication certain ideas are formed and expressed unconsciously, leaving no impress on the memory. Of course these incidents are not common to all intoxicated men, but exceptional. Occuring as they do in extreme palsy from spirits, they suggest the operation of consciousness below the sense, and behind the phenomena of ordinary brain activity. The remark so often made by the laity, that states of intoxication in certain men are followed by greater wisdom and judgment than ever manifested during their sober periods, is a recognition of this condition. The theory of double consciousness applies to and explains much of these phenomena. The ordinary consciousness is palsied by spirits, and can act only along automatic lines. The sub-consciousness or subliminal sense breaks through this palsy and asserts itself, in wise comments or statements of events, predictions and sane thoughts. It is certain these manifestations come from deeper and less impaired mentality, and are not mere accidents and morbid impulses of the moment.

The gathering and grouping of a number of well authenticated incidents of this class may bring out some laws and conditions which control these at present very obscure phenomena.

ON MENTAL EVOLUTION.

AT the Montreal meeting of the British Medical Association, Dr. Maurice Backe, in an able and original paper, market out what may be considered the standpoints of modern psychology. Some of his positions are rather startling to the ordinary reader. Thus he says that "The musical sense does not appear in the individual before the average age of about twenty years." That it has existed less (probably) than 5,000 years in the race; that the human moral nature "is congenitally and permanently absent in 4 per cent. of all individuals," and that "it cannot have existed in the race more than 10,000 years at the most." Equally novel are this author's views as to the future development of mind. "So-called telepathy and clairvoyance seem to be specimens of nascent faculties. As also the phenomena often named spiritualism. . . . To me these are not cases in which outside agents are acting on or through a human being, but are cases in which a given human being has faculties which are not commonly possessed. . . . Whether such faculties shall grow and become common . . . will depend on the general laws of natural selection, and upon whether the possession of the nascent faculty is advantageous or not to the individual and to the race."

LARYNGEAL TUBERCULOSIS.

MR. J. W. GLEITSMAN, of New York City, read a very interesting paper on laryngeal tuberculosis before the section of laryngology and rhinology at the International Medical Congress, Moscow, in which he gave a critical review of the development of treatment since the meeting of the preceding medical congress. He divided the treatment into the medicinal, local, and surgical, although a combination ot the three methods is often necessary. The first step is to impress the general and pulmonary conditions. Of all the remedies applied locally in the larynx, and we might almost say of all the means employed in the treatment of the disease, none enjoys such universal consensus of opinion as to its efficacy as the application of lactic acid introduced by Krause, in 1885. It is gratifying to note that there is an equal harmony in regard to the manner of its application, as well as to the indications for it. Similar results have been observed from the use of sulpho of phenol which promotes not only healing of tuberculous ulcerations, but also absorption of infiltration. Another remedy strongly recommended by Simonowski and Spangler, of St. Petersburg, is parachlophenol. Superficial nodules and ulcerations disappear quickly after a few applications, but deeper ulcers and large infiltrations require treatment for several months. The solutions he employs are from 5 to 20 per cent. parachlophenol in glycerine. It has a long-lasting anæsthetic effect, after the first pain from the application, which is sometimes considerable, has subside. Enzymol is mentioned as a most valuable auxiliary to the curette and lactic acid. It is non-irritating and possesses in a high degree the quality of digesting necrosed tissue. Dr. Murray applied it to a large ulcer upon the ventricular band, and in twenty-four hours the detritus with which the ulceration was covered had entirely disappeared. In surgical treatment curetting is mentioned as

most frequently indicated and of the greatest importance, but there are only certain conditions in which it is indicated.

Dr. Gleitsman thinks the curette is indicated:

(1.) In cases of primary tuberculous affections without pulmonary complications.

(2.) In cases with circumscribed ulcerations and infiltration of the larynx.

(3.) In cases of dense, hard infiltrations of the arytenoid region of the posterior wall, also of the ventricular bands, tuberculous tumors of the epiglottis.

(4.) In the incipient stage of pulmonary disease with but little fever and no hectic symptoms.

(5.) In advanced pulmonary diseases with distressing dysphagia resulting from infiltration of the arytenoids as the quickest means of giving relief.

HOSPITAL AND DISPENSARY APPROPRIATIONS.

ON the consideration of appropriations to charitable institutions by the Board of Estimate and Apportionments of this city, Mayor Strong made some very pleasant remarks in reference to our profession, which showed his appreciation of the gratuitous work physicians are constantly doing for the poor. He said: "I never had so much respect and admiration for members of the medical profession as I have had since I became Mayor. Physicians are always doing charitable work of which the public has no idea. At most of the charitable institutions of this city there are corps of physicians who are giving their services free. I have been in charitable institutions in this city since I became Mayor, and have seen eminent physicians giving most careful attention to poor devils who had neither home nor money. If the services that the physicians give free to the poor and charitable institutions were charged for, the amount would be vastly greater than all the money the city is asked to give to all the medical colleges with hospitals connected."

And yet the free work done by physicians in charitable institutions is only a very small part of the free work bestowed upon the deserving poor in every private practice. Would it not be wise for our legislators, before bestowing the people's money in large sums to so-called charitable institutions, to understand a little more intelligently the character of work called for in those institutions. Twenty years ago not more than 5 per cent. of the medical advice given was free; it is reckoned now that at least 60 per cent. of all medical advice in this city is absolutely free or at a cost of only five or ten cents a prescription; a large proportion of those availing themselves of this free work being abundantly able to pay at least a small fee. At a dispensary in this city not long since a young surgeon who was repeatedly winning an enviable reputation in his specialty, registered one day the name of eight applicants for surgical work. Having a curiosity to know their financial standing he sent their names to the charity organization society. The returns came back that one had given a false address and that every one of the others were living comfortably; one owned an entire block of houses and all were enjoying an income which placed them far above want; one being worth at least $100,000.

An eminent lawyer narrates a case, one of many which might be selected showing the absolute want of honor among a large number of people and the fraud daily practiced upon the medical profession and the taxpayers of the city. He had settled an estate in which a sum amounting to about $4,000 was coming to a poor widow. He hastened to give her the check, supposing her to be in want as he knew her family was attended by a dispensary physician, when he found she had over $6,000 deposited in savings banks. The question is a grave one and worthy the most careful consideration, if it is wise to deal out the people's money, raised by heavy taxation, with such a liberal hand in the support of marked fraud, and to the detriment of one of the most hard worked and unselfish professions in the world.

THE DISCOVERY OF CHLOROFORM

LAST month, said the *Monthly Homœopathic Review* occurred the jubilee of the discovery of the anæsthetic properties of chloroform, and proceeds to quote from a lecture by Prof. Muller, in 1849, some account of its first introduction to the profession as a strong and reliable anæsthetic. Dr. Simpson, in his search for a stronger and better anæsthetic than ether was induced by Mr. Waldic to try chloroform, then looked upon but as little more than a chemical toy used mostly as an external application in liniments, but very seldom used in any way. Late one morning, says Prof. Miller, after a weary day's labor, Dr. Simpson and his assistants sat down to test chloroform by inhalation. Immediately an unwonted hilarity seized the party; they became bright-eyed, very happy, and very loquacious—expatiating on the delicious aroma of the new fluid. The conversation was of unusual intelligence and quite charmed the listeners—some ladies of the family and a naval officer, brother-in-law of Dr. Simpson. But, suddenly, there was a talk of sounds being heard like those of a cotton mill, louder and louder; a moment more then all was quiet, and then—a crash. On awakening Dr. Simpson's

first perception was mental; "This is far better and stronger than ether," said he to himself. His second was to note that he was prostrate on the floor, and that among the friends about him there was both confusion and alarm. Hearing a noise, he turned round and saw Dr. Duncan beneath a chair; his jaw dropped, his eyes staring, his head bent half under him; quite unconscious and snoring in a most determined and alarming manner. More noise still, and much motion. And then his eyes overtook Dr. Keith's feet and legs, making valorous efforts to overturn the supper-table, or more probably to annihilate everything that was on it; I say more probably; for frequent repetitions of inhalation have confirmed, in the case of my esteemed friend, a character for maniacal and unrestrainable destructiveness—always, under chloroform, in the transition stage. "By and by, Dr. Simpson having regained his seat Dr. Duncan having finished his uncomfortable and unrefreshing slumber and Dr. Keith having come to an arrangement with the table and its contents, the symposium was resumed. Each expressed himself delighted with the new agent; and its inhalation was repeated many times that night—one of the ladies gallantly taking her place at the table—until the supply of chloroform was fairly exhausted. . . . The festivities of the evening did not terminate until a late hour—three A. M."

A few days later, says the *Review*, three operations were performed at the old Royal Infirmary, under anæsthesia produced by chloroform and among those present was M. Dumas, the distinguished French chemist, to whom the world is indebted for the discovery of chloroform. The writer is mistaken in attributing the discovery of chloroform to M. Dumas. It was discovered by Dr. Guthrie, an old United States Army Surgeon in the war with England of 1812, who after the close of the war opened a small drug store at Sag Harbor in this State. Connected with this drug store was a small laboratory in which the doctor spent most of his time in experimenting and in manufacturing the preparations used in his trade. The name first given to the product now known as chloroform was *sweet whisky*. The formula was published at that time in a scientific publication of the day and by that given its chemical name, For fifteen or twenty years scarcely any attention was given to this product, which aided by the suggestions and practical mind of Simpson, has been one of the greatest blessings of the age. In this connection we can see how often gains which have revolutionized the world of science and of industry and art have remained unnoticed until some practical mind has developed and utilized them in ranks of the greatest promise and usefulness Hundreds had seen the teeth of a saw catch hold of a tuft of cotton filled with seeds and clean it thoroughly as it went through the board; but Whitney, in this simple fact saw the principle of the cotton gin, which has added untold millions to one of the greatest industries of the age. The first sun picture ever taken was made by Prof. John W. Draper, in his laboratory in the old New York University, fronting Washington Square. adjoining a room in which Prof. Morse worked out his problem of the telegraph, and was looked upon as of but little importance until Daguerre, of France, seized the idea, gave it his name and made it the corner stone of a temple of art whose wonderful productions have so increased in perfection and beauty as to develop the artistic taste of the world.

YELLOW FEVER.

SURGEON-GENERAL WYMAN, of the Marine Hospital Service, summarizes in the November *Forum* the lessons of the yellow fever epidemic in the South. The harbor of Havana he considers the natural breeding ground of the fever and states that thirty-five of the visits of the yellow fever to the United States since 1800 are known definitely to have been from Cuba, while twenty-three of these have been clearly traced to the port of Havana.

"Europe's protection against Cuba, in this particular, lies in her remoteness. A disease which lurks in a vessel starting across the ocean has time to develop and manifest itself so clearly that the quarantine officials on the other side can discover it on the vessel's arrival. But with Cuba hardly six hours from Key West, there will always be a percentage of danger, however stringent the quarantine regulations may be, if the conditions remain as they are, unless, indeed, we assume a policy of absolute non-intercourse with the island during the summer months.

"The harbor of Havana is a cesspool, which for years has received the drainage of the city; besides, it is a veritable *cul-de-sac*, which cannot be scoured by the tides or by fresh-water streams. The wharves on the Havana side of the harbor are notorious as sources of infection. An examination of the records of the quarantine stations on the South Atlantic and Gulf coasts for 1894 shows eleven cases of yellow fever, all having been taken from vessels arriving at the Dry Tortugas station from the wharves in Havana. Two of these wharves, the Tallapiedra and the San Jose, are especially dangerous. Under the Tallapiedra empties the sewer from the military hospital, where the yellow fever patients from the

army are treated. It has been said that no vessel with a non-immune crew on board has ever been tied to this wharf without yellow fever appearing among them. So well known is it as a danger-point that sailors call it 'Dead Man's Hole,' and so great is the danger of tying up to it, that captains of American vessels have been known to pay for the privilege of discharging cargoes on lighters in the open bay, the payment being made by deduction from freight charges, amounting frequently to $200 or $300. American captains have frequently asserted that the United States Government should not allow vessels to go to this wharf."

Sanitary engineers have repeatedly shown that these conditions are wholly unnecessary. An artificial outlet to the harbor, they say, would permit the waters of the Gulf to wash through. Then the sewer-mains should be carried out to sea, and the old wooden wharves destroyed. These simple measures, it is believed, would go far to rid the city of its unenviable reputation as a pestilence-breeder.

That a reform of this kind is practicable seems to have been demonstrated in the experience of Vera Cruz, whose harbor was formerly almost as great a menace to the United States as Havana. With the great engineering changes at Vera Cruz, brought about under the leadership of President Diaz, the disease has been practically wiped out in that city.

Under the disturbed political conditions now prevailing in Cuba, no great public work of this character can well be undertaken, but Dr. Wyman urges that on the restoration of peace it should be the first concern of the United States to insist on better sanitation in Havana. That is a matter in which this country is vitally interested, and our protest should be heeded.

FOR COLDS.

WE find in the *Therapeutische Monathepte* a remedy by Wunche for colds, which, he says, in the early stage acts almost as a specific. A mixture is prepared composed of from one to two parts of menthol and twenty parts of chloroform; of this, from four to six drops are placed in the hollow of the hand, the hands quickly rubbed together and placed over the face, inhaling deeply through mouth and nostrils. The application can be repeated two or three times during the day if necessary.

CAN you tell me, Johnnie, which travels the faster, heat or cold? "Heat, of course. Anybody can ketch cold."

AN esteemed correspondent writes us that "your editorial in the December number is soul stirring from the standpoint of *abolishing provincialism in medicine and broadening the boundaries of intelligence.*"

"The day is dawning when thousands in the profession of America are ready to heartily join the movement of establishing a National Organization whose only code of ethics will be '*living the golden rule*,' and whose membership will be free from any monarchical restraint to exercise the franchise of manifesting the courage of their convictions. To work and be happy in all that pertains to the welfare of humanity."

Another says, "Allow me to congratulate you upon the beautiful '*silver*' number of the TIMES. I know of no other medical journal which possesses an indefinable friendliness about it, a real German gemuthlichkiet which is delightful. One feels a *personal friendship* for the TIMES, and when I pick it up to read it, it seems as if a friend had called. In no such decided degree can I speak of any other journal of medicine! It is a *restful* and welcome journal always."

Regardless of the reference to ourselves, the sentiment contained in the first letter, contains not only the true ring, but solid principle to the core.

"Provincialism in Medicine" is good, and, as far as we know, original, and should be perpetuated, so long as there is reason for it. The various codes of ethics pretend to be founded upon the "Golden Rule," but it is a very narrow interpretation, and rarely lived up to. The first step in our opinion, as we have repeated so many times, is to eradicate sectarian designation, the chief stumbling block to a permanent and durable medical union.

CASSENKO, in the *British Medical Journal* of June, recommends a variola icthyol in an ointment composed of ten parts of icthyol to sixty of fat and twenty Sanoli's olive oil, chloroform, or glycerine. The ointment was rubbed in three times a day as soon as the papules became visible. There was no tenderness at the seat of eruption, the temperature never rose high, and desquamation was completed in one-half the usual time.

A HOSPITAL has just been opened for diphtheria and scarlet fever patients at East Sixteenth street and East River. It is intended for pay patients, who can be attended, if they choose, by their own physicians.

THE matriculants in twenty-eight out of fifty medical colleges in the United States in 1897 were 7,000. It would be safe to reckon from these figures that no less than 25,000 students are entering on the study of medicine this year. What are called the learned professions, law, medicine, and theology, are evidently overcrowded, and every year hundreds failing to find support in the profession of their choice are compelled to adopt some other means of livelihood.

NURSES as well as mothers are often troubled to relieve and prevent the soreness of the private parts in babies occasioned by the irritation of the urine. Dr. Ricakby, in one of his lectures to the training school of the Hahnemann Hospital, gives an idea of a plan which, with him, has proved very successful. He applies to the parts oxide of zinc ointment, and then uses a diaper of thin India rubber, in which a slit is cut which lets the water escape without touching the flesh. The treatment is very simple but very effective in the cure and prevention.

DR. A. W. SCHIN, in the *Lancet*, gives several very strong reasons why the poultice should not be used in the broncho-pneumonia of children. The weight of the poultice and the change of temperature between the application and removal tend to heart failure, and are like the repeated removal of the patient from a hot to a cold room, unscientific and prejudicial to the welfare of the patient. He obtains better results by applying to the chest a jacket, loosely fitting, made of any light material, and rubbing it with oil and turpentine, giving at the same time the remedy indicated by the stage of the disease.

AT the annual meeting of the Ladies' Health Protective Association Mrs. M. E. Trautman was elected president. A high compliment was paid to the Mayor, Col. Waring and President Wilson for their wise and efficient work, which had contributed immensely to the comfort of the city and had greatly decreased its death rate.

PROF. ELMER GATES will continue his article on "Experimental researches into the cause and cure of disease, along new lines and by new methods," in our February issue.

Thomas A. Edison, Jr., believes that he has made a discovery which will result in a perfect electrical apparatus for reproducing human thoughts as they are evolved in the mind. He also claims to be able to photograph colors. Two most important advances, if verified, in his field of work.

BIBLIOGRAPHICAL.

OPHTHALMOLOGICAL THERAPEUTICS.

This little volume, costing only $1, by Drs. Sardot and Gyeax, published by J. B. Lippincott Co., is a vade mecum containing in a concise form the indispensable facts of a special therapeutics. It is just the kind of volume to refresh the mind and have handy, so that one can open its pages at any time.

LECTURES ON PHYSIOLOGY. First series on Animal Electricity. By Augustus D. Waller, M. D., F. R. S. Longmans, Green & Co., 1897.

The twelve lectures contained in this little book consist of an abstract of the course delivered at the Royal Institute during the spring of 1897. The lectures are thoroughly scientific, and of great practical interest.

LIPPINCOTT'S POCKET MEDICAL DICTIONARY, 20,000 words, together with many elaborate tables, edited by by Ryland W. Greene, A. B.

This little volume will probably be consulted twenty times where a larger one would be once. Clear in its definitions, easy of reference, and containing simply the terms used in modern medical literature, it will be found most valuable for daily reference.

A HANDBOOK OF MIDWIFERY, by W.R. Dakin, M D., B.S., F. R. C. P., with 400 illustrations. Longmans, Green & Co., 1897.

The author arranges his work in two divisions—Physiology and Pathology—in each of which the events of pregnancy, labor, the puerperal period, and those connected with recent births and deaths are noticed in turn. The author brings to his work extensive reading and a large amount of practical experience, and has given us a work outside the beaten track; thoughtful, scientific, and of great practical value.

THE PIONEERS OF HOMŒOPATHY, compiled by Thomas Lindsley Bradford, M. D. Philadelphia: Boericke & Tafel, 1897.

The first part of this book is devoted to the pioneer powers of the homœopathic materia medica, who were associated with Hahnemann as pupils from 1811 to 1821, and who assisted him by proving upon themselves various drugs and carefully noting their effects under his direction. These provings were afterward incorporated into the materia medica pura. The second part of the book includes the biography of all those practicing homœopathy previous to 1835. The work is well written, and is historically accurate.

STIRPICULTURE OR THE IMPROVEMENT OF OFFSPRING THROUGH WISER GENERATION, by M. L. Holbrook, M.D., editor of the *Journal of Hygiene*.

Dr. Holbrook always writes well, and in this book advises greater thoughtfulness in marriage, improved environment, better hygienic conditions and a more thorough and harmonious development of mind and body. There is nothing particularly new in the book, but his argument is so logically brought out and his story told in such cultured language that the facts will naturally be impressed on the mind.

TRAUMATIC INJURIES OF THE BRAIN AND ITS MEMBRANES, with a special study of pistol-shot wounds of of the head in their medico-legal and surgical relations; by Charles Phelps, M.D., with 49 illustrations. New York: D. Appleton & Co., 1897.

This work, designed to be a concise and systematic exposition of the injuries of the brain arising from external violence, has been based in a great measure upon observation of 500 cases of recent occurrence. A careful study of these cases has afforded abundant facilities for a comprehensive history of intercranial traumatism.

The lesions which attend pistol-shot wounds of the head

have been considered apart from general injuries. This portion of the work, which directly concerns medical jurisprudence, is especially designed for the legal profession in more precisely estimating the proper weight to be given to expert testimony in cases of this character. The author in his investigations occupies a field which has been somewhat neglected by surgical writers, and his work will be read with marked interest in its bringing together of new facts and the light it throws upon a most important subject.

Volume III. of the seventh series of international clinics, published by J. B. Lippincott Co., openswith a very interesting article on opium, its uses and abuses, by Herman D. Marcus, M. D. This is followed by articles on the treatment of pulmonary tuberculosis, of injuries to the eyeball, observations on senile heart, carcinoma of the stomach, homophysis, and a large number of short articles in which a great variety of subjects in connection with the various departments of our profession are ably discussed. Most of these productions are of the character of the leading articles which usually appear in the original department of medical journals.

MEDICAL AND SURGICAL DISEASES OF THE KIDNEYS AND URETERS, by Bukk G. Carleton, M.D. Illustrated. New York; Boericke, Runyon & Ernesty, 1898.

As we turned over one page after another of this book we were fascinated with the clear, terse style of the author, his wonderful faculty of condensation, and the evidence of logical thought and extensive reading everywhere shown. We know of no work on the subjects discussed which contains so much valuable information in so short a space. We congratulate the author upon the excellence of his work, and the young publishing house upon the success of their new venture.

THE MENOPAUSE. A consideration of phenomena which occur to women at the close of the child-bearing period, with incidental allusions to their relationship to menstruation. Also a particular consideration of the premature, especially the artificial menopause. By Andrew F. Currier, A. B., M.D. New York: D. Appleton & Co.

This admirable work is very timely, and will be warmly welcomed not only by the profession but by the intelligent among the laity. It deals with a subject about which but little has been written recently, and presents in clear language scientific facts of the utmost importance. Many books are written which are not needed, but this is not one of them.

The second and thoroughly revised edition of Dr. Henry J. Garrigue's text-book on diseases of women, containing 335 engravings and colored plates, comes to us through the publishing house of W. B. Saunders, Philadelphia. In this edition old-fashioned patterns of instruments have been replaced by new ones; defective original illustrations have been artistically redrawn and many new figures added. Aseptic surgery, which was in its infancy when the first edition was written, has been more carefully considered, still retaining previous antisepsis, which is often all that can be obtained in private practice. Part of the text has been rewritten, omitting what seemed of meager importance and adding the new thoughts of progress. The illustrations are of marked beauty and accuracy, and the literary, scientific and typographical appearance of the work worthy the author and publishers.

A PRACTICAL TREATISE ON APPENDICITIS. By Howard Crutcher, M. D. Chicago; Hahnemann Publishing Co., 1897.

The author claims that appendicitis is a surgical disease, but not by any means restricted to the use of instruments. Medicine strictly applied assumes that perforation will not occur; surgery goes upon the theory that all cases may end in perforation, "and that the patient should, under all circumstances, be in what may be called the surgical condition. From this line of reasoning come the rigid confinement to bed and the complete evacuation of the intestine canal—just the measures most likely to render operative interference unnecessary. Dr. Crutcher quotes freely from some of the ablest and most practical writers upon the subject. In etiology, pathology, medical and surgical treatment the author covers the ground better than any other treatise we have seen.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science by leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In 20 volumes; Vol. XII., mental diseases, childhood and old age. New York; Wm. Wood & Co., 1897.

The twelfth volume opens with an article of 254 pages on insanity by G. Fielding Blandford, M.D., F.R.C.P., Lectures on Psychological Medicine at St. George's Hospital, London. The various phases of insanity are ably discussed, the article terminating with considerations of the prevention and jurisprudence of insanity.

The second paper is on idiocy, by Paul A. Sollier, M.D. Paris and covers 114 pages. Cesare Lombroso, of Tunin, has a short article on Criminal Anthropology. J. Boyd Teissier, of Marseilles, gives an interesting article on old age. The remainder of the work of 300 pages is devoted to a very able treatise by Jules Comby, M.D., Paris. All the articles are concise, but written with great clearness, presenting well-established facts rather than theory and argument.

CLINICAL METHODS, being an introduction to the Practical study of medicine. By Robert Hutchison, M.D., M. R. C. P., Demonstrator of Physiology in London Hospital Medical College, and Harry Rainy, F. R. C. P. F. R. S. E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. Handsome 12mo., 562 pages, 137 engravings and 8 colored plates. Cloth, $3. Lea Brothers & Co., Publishers, Philadelphia and New York.

The novel title of this work well describes its purpose as an "Introduction to the Practical Study of Medicine." A systematic method of procedure greatly facilitates a complete diagnosis, establishes habits of thoroughness, and gives the physician a most valuable command of his experience as it accumulates. The first chapter of the present volume describes approved methods of case-taking, and includes a scheme for the investigation of medical cases. The rest of the book is really an expansion of that scheme, each system of the body being taken up separately and the methods of examining it described in detail. Special chapters have also been added on the examination of pathological fluids and on clinical bacteriology, as these subjects are daily growing in importance. No effort has been spared to make the book thoroughly up to date, and it is hoped that it will be found useful by those practitioners who may wish to become familiar with the latest methods of clinical investigation. The work is richly illustrated with 137 engraving and 8 colored plates.

KLEMPERER'S CLINICAL DIAGNOSIS. By Dr. G. Klemperer, professor at the University of Berlin; first American from the seventh and last German edition; authorized translation by Nathan E. Brill, A.M., M.D., Adjunct Attending Physician, Mt. Sinai Hospital, and Samuel M. Brickner, A.M., M.D., Assistant Gynæcologist, Mt. Sinai Hospital Dispensary, is announced for early publication by the Macmillan Company.

Dr. Klemperer's work on *Clinical Diagnosis* is widely known, and all English readers will be rejoiced to find within their reach this very comprehensive but condensed manual. Its chapters deal with the inspection and examination of the patient, the diagnosis of the acute infectious diseases, diseases of the nervous system, digestive diseases, each under its special symptomatology, diseases of the respiratory apparatus, the heart and circulation. Two chapters are devoted to urine analysis and to the diseases of the kidneys. The four concluding chapters deal with the disturbances of metabolism, the diseases of

the blood, the Roentgen rays as diagnostic aids, and animal and vegetable parasites, including such bacteria as are of clinical importance.

ARCHIVES OF THE ROENTGEN RAY, formerly Archives of Skiagraphy. Edited by W. S. Hedley, M. D., M. R C. S., and Sydney Rowland, M. A., M. R. C. S. London: The Rebman Publishing Company. Philadelphia: W. B. Saunders.

The July fascicle of this valuable publication is at hand, and it contains interesting text as well as valuable plates to those engaged in this subject. One of the plates shows detection of stone in the bladder by this process.

HARE'S PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Laureate of the Medical Society of London, of the Royal Academy in Belgium, etc. New (2d) and revised edition. In one octavo volume of 598 pages, with 201 engravings and 13 full-page colored plates. Cloth, $4.75. Philadelphia: Lea Brothers & Co., Publishers.

It is not strange because of tradition that the natural and logical plan of Dr. Hare's *Diagnosis* should have escaped previous writers and should now come with all the freshness and force of a new idea. He has completely and sensibly reversed the method of his predecessors and has presented his subject as a case always presents itself to the physician, namely, *symptoms first*. Previous writers have taken up *diseases first*, describing their symptoms thereunder, a plan which compels the leader in practice to reverse the order in his mind and either to recollect the particular groups which indicate the several diseases, or to guess at the disease and compare its description in the book with the case at hand. This labor of mind and memory Dr. Hare has obviated and therefore at once reduced the difficulty and increased the certainty of diagnosis. The book consists essentially of two parts, first: *The Manifestation of Disease in Organs*, and, second, *The Manifestation of Disease by Symptoms*. The physician discovering a symptom in any organ can at once find its clinical significance in the first part, and in the second he can equally ascertain the special indications of the more general symptoms, such as fever, headache, vomiting, cough, pain, etc., etc. Obviously two or more symptoms lead to a diagnosis, as the botanist easily identifies a plant by means of its characteristics arranged according to a similar natural system in the well-known botanical key. Hare's *Diagnosis* is, however, much more than a key, for it is fully descriptive. The *Index* is equally novel and helpful. Under each symptom is a list of the diseases in which it occurs, and under each disease are indexed its symptoms. The physician finding a symptom accordingly has at hand a suggestive list of possible diseases and on comparison of the lists following two or more symptoms he has a prompt method of exclusion. Furthermore a diagnosis can be at once confirmed by reading the list of symptoms following the indexed reference to a disease.

The English as well as the American medical public has been prompt to recognize the value of this novel, logical and useful book, and the appearance of a second and completely revised edition within a twelvemonth is the consequence.

DISEASES OF THE EYE. By N. L. Macbride, M.D., O. et A. New York: Boericke, Runyon & Ernesty. 1897.

The author has a very happy faculty of imparting information and has given the profession a work of rare excellence. The treatment is from the homœopathic standpoint, and includes only those remedies which the author, in his large experience in hospital and private practice, has found most beneficial. The work will be even more welcome to the library of the general physician than to the specialist, but will be found to be most acceptable to all.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia; etc. Illustrated. Philadelphia: W. B. Saunders. 1898; pp. 1287; 8vo, cloth, $5.50 net.

No one will question the need of up-to-date text-books by competent authors, when the fact is taken into account that so many important additions have been made within the past decade, to our knowledge of medical practice in general and of the diagnosis and treatment of disease in particular. The work before us gives in a comprehensive manner the generally accepted results of scientific investigation bearing upon the subjects treated, and portrays with proper force and sufficient clearness the clinical aspects of the diseases considered.

The text covering every known subject in medicine is clearly stated mentally and physically, particularly with reference to diagnosis and treatment, and there are fifty-six tables of differential diagnosis in practical and convenient form for ready reference as a hand book. No mistake can be made in commending such a book to students and to practitioners. The physical part of the work is in Mr. Saunders best style.

DISEASES OF THE EYE. By Edward Nettleship, F.R. C. S., Ophthalmic Surgeon at St. Thomas' Hospital, London.; Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. Revised and Edited by W. T. Holmes Spicer, M.A., M.B. F. R. C. S., Ophthalmic Surgeon to the Metropolitan Hospital and to the Victoria Hospital for Children. Fifth American from the sixth English edition. With a supplement on Color Blindness by William Thomson, M.D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Handsome 12mo. of 521 pages, with two colored plates and 161 engravings. Cloth, $2.25. Lea Brothers & Co., Publishers, Philadelphia and New York. 1897.

A work which has passed through the press six times in Great Britain and six times in America can reasonably claim a degree and length of success which can come only from merit. Of the six American issues one was a reprint unchanged, which was made necessary by an unexpected increase in the demand. This book fills a peculiar place in the literature of ophthalmology, as it compendiously answers the needs of practitioners as well as students. Its wide use is furthermore reflected in a remarkably moderate price. The favor which it has thus found among all English-speaking nations has led to still another advantage, namely, frequent revision and consequent fidelity to the rapid progress of ophthalmology. The present edition has had the benefit of thorough revision by one of the leading English ophthalmologists, and also by equally eminent American authority. In certain points the views and practice of American ophthalmologists differ somewhat from those prevailing in Great Britain, and accordingly additions will be found in the text wherever necessary to render it a true exposition of American practice. The section on the Detection of Color-Blindness with which Prof. Thomson enriched recent American editions has been revised by him, rendering the work indispensable to railroad surgeons. We may therefore reasonably consider it to be an epitome of the best ophthalmology of modern times.

THE CARE AND FEEDING OF CHILDREN.—A Catechism for the the use of Mothers and Child Nurses, by L. Emmett Holt, M.D. D. Appleton & Co. 1897.

This little brochure of only a hundred pages should be in the hands of every mother and nurse.

LITERARY NOTES FROM THE CENTURY COMPANY—The fifth printing of Dr. Mitchell's novel, "Hugh Wynne," is now under way, bringing the book up to the thirtieth thousand. The new story, "The Adventures of Francois," by the same author, which is to begin in the January *Century*, is a tale of pure adventure, the hero a "foundling, adventurer, juggler, fencing-master, and servant, during the French Revolution." It will be illustrated by the French-American Artist, Andre Castaigne.

There are three "Just-So" stories by Rudyard Kipling, one of which, "How the Whale Got His Tiny Throat," appears in the Christmas *St. Nicholas*. "How the Camel Got His Hump" will appear in the January number, and "How the Rhinoceros Got His Wrinkly Skin," will come in the February *St. Nicholas*.

MANUAL OF GYNÆCOLOGY.—By Henry T. Byford, M.D. Second edition, containing 341 illustrations. Philadelphia: P. Blakiston, Son & Co. 1897.

Prof. Byford's work is interesting not so much for the expert as for a manual of gynæcology complete enough for study or reference during the college course as well as a guide in general practice. The first edition was issued in 1895. In the second edition a large amount of new matter has been added. A new part on the anatomy of the pelvic organs has been inserted as new chapters on several diseases. Angioma, hypatrophy and atrophy of the uterus have received separate mention. The subjects of hyperplasia, chronic inflammation and subinvolution of the uterus, urinary and great fistula and ectopia gestation have been rewritten. The additions have added materially to the value of the book.

DISEASES OF THE STOMACH.—Their Special Pathology, Diagnosis, and Treatment. With sections on Anatomy, Physiology, Analysis of Stomach Contents, Dietetics, Surgery of the Stomach, and of their parts. By John C. Hemmeter, M. B., M. D., Ph. D. With many original illustrations. Philadelphia: P. Blakiston, Son & Co. 1897.

The author gives the key note to his work in the quotation of one of Æsop's fables. "The Members of the body rebelled against the Belly and said, 'Why should we be perpetually engaged in administering to your wants, while you do nothing but take your rest and enjoy yourself in luxury and self-indulgence? The members carried out their resolve and refuse their assistance to the Belly. The whole body quickly became debilitated, and the hands, feet, mouth and eyes, when too late repented of their folly." The title gives an excellent idea of the plan of the work, every department of which has been worked out with thoughtful care as shown in the logical conclusions from facts drawn from extensive practical experience and a wide range of literature. The work is one of the cleanest and most trustworthy upon the subjects discussed which has yet appeared.

An article in the *Gazette Medicale de Liege*, by Zydlositsh, recommends argonin in chronic gonorrhœa as superior to any other remedy used in a long practice. It causes the rapid disappearance of the gonococci; does not aggravate the pathological process, but attenuates it. It should be continued until no gonococci are discovered in the course of three to five examinations at three days interval. The argonin is injected into the anterior portion of the urethra in a 1½ per cent solution four times a day, and retained five minutes. The posterior portion is treated with a 3-5 per cent. solution, the consecutive catarrh with astringents. Dr. Carleton, in his very excellent work on urinary diseases, states most emphatically that with proper attention there is no necessity of a gonorrhœa ever becoming chronic. When it does assume that character there is always some lesion in the urethral canal which must be remedied by the knife or mechanical means, and if this is attended to in the early stage the cure is rapid and complete.

—In Tokio, Japan, Dr. Kitasato is in charge of an institute connected with the Sanitary Society of Japan for the study of infectious diseases. It contains laboratories for original research, where anti-diphtheritic serum, anti-cholera serum, typhoid and erysipelas serums are manufactured. A practical course in bacteriology is given to students. They have a studio for micro-photography equipped with Zeis' complete apparatus. The wards hold fifty patients, and only those suffering from contagious diseases are admitted; cholera and smallpox being excluded.

CORRESPONDENCE.

IS THERE ANY CONNECTION BETWEEN THE STERNBERG-SANARELLI MICROBE OF YELLOW FEVER AND THE PLASMODIUM MALARIÆ OF LAVERAN?

In 1878 I was practising in the upper Missouri valley. During that summer and fall the lower Mississippi region had one of the worst outbreaks of yellow fever known in this country, centred about Memphis, Tennessee. It got entirely beyond the control of the quarantine and sanitary officers. Memphis is 400 miles below St. Louis. St. Joseph, Missouri, near where I practised, is 400 miles northwest of St. Louis. New Orleans is 1,200 miles south of St. Louis. All our types of malarial fevers in the north Missouri valley were the severest types known to that region for years: Pernicious intermittents, hematurial, hemorrhagic disease types; hematemeses, hemorrhagic dysenteries, and even hemorrhagic conjunctivites. One would be called to a patient and find him unconscious, breathing stertorously, cross-eyed perhaps—a cerebral type of intermittent, quickly responding, however, to the prevailing treatment; that is, a hypodermic injection of thirty grains of quinine, an enema of croton oil, and stripping the patient and wrapping him in a sheet wrung out of hot water; consciousness would be restored promptly, and internal treatment then carried on by the mouth.

There was no yellow fever as high up the Missouri as that.

What connection could there have been between these bad types of malarial fevers with us, and the yellow-fever epidemic lower down? The climate with us was not different from what it always is. Yet the plasmodium malariæ took on a very virulent quality. Sanarelli claims that the germs of yellow fever circulate in the blood, so does the plasmodium malariæ. His cultivation of the yellow fever microbe was made in the liver, and it is his opinion that the bacillus *Communis* in yellow fever is apt to cause the blood poisoning. Can there be any connection between the malarial dysentery and yellow fever?

Why should poisoning by plasmodium malariæ in that season have produced hemorrhagic types of fever? Are not the hemorrhages of malarial fevers caused in the same way as the black vomit?

ALBERT S. ASHMEAD, M. D.

New York, November, 1897.

THE OIL TREATMENT IN APPENDICITIS.

To the Editor of THE MEDICAL TIMES:

On page 343 of THE MEDICAL TIMES for November, 1897, Dr. M. O. Terry quotes his "experience of fifty-one cases of appendicitis with no deaths—forty-nine treated medically, there being only two with operations." No one of Dr. Terry's high standing would voluntarily lead us astray, and the medical treatment that he advocates is the most excellent that I have ever seen described, but very busy men sometimes find it difficult to keep track of all of their cases. For obtaining the post-operative details of one of my series of 100 consecutive appendicitis cases, several hundred letters had to be written to the patients and to their physicians, and several weeks elapsed before the report could be made complete. When a physician of Dr. Terry's prominence states that forty-nine out of fifty-one cases of appendicitis have been cured by medical treatment, I assume that some of the men upon whom he has depended for subsequent histories of the cases have deceived him, and I will put my idea in this form. If Dr. Terry will personally obtain a report from each one of the forty-nine cured patients, I will give $1,000 on the first day

of June, 1898, to any hospital that Dr. Terry will name, if he finds that none of these patients have died of appendicitis or its complications, or have not subjected themselves to operation for appendicitis. Dr. Terry, on the other hand, to give $1,000 to the Library of the New York Academy of Medicine, on June 1, 1898, if he finds that some of these forty-nine patients have died of appendicitis or its complications, or have subjected themselves to operation for appendicitis.

I will not ask for any referees, but will take Dr. Terry's word for whatever he reports if he states that he has personally heard from each one of the forty-nine patients since the date of publication of this note, and that the fifty-one patients quoted were the only ones that he had treated for appendicitis. I hope that no one will find that I have left any loop-hole for myself in this matter.

Dr. Terry states that he has cured forty-nine out of fifty-one cases of appendicitis in his experience by medical means alone, and the matter is one of very grave importance because other physicians depend upon such authority. I wish to show that he has been misled, and have made it an object for him to investigate so that we may be guided safely on dealing with the precious lives that are entrusted to our care.

I have no knowledge whatever about any one of the forty-nine cases, but I have made a careful study of the subject of appendicitis, and from the findings in the analysis of 100 consecutive appendicitis operations of my own (reported in the second edition of my Lectures on Appendicitis) there is evidence that more than 25 per cent. of all appendicitis patients eventually die under medical treatment. I do not doubt that under the excellent medical treatment advocated by Dr. Terry it is possible to cause subsidence of the acute symptoms in forty-nine consecutive single attacks of appendicitis, but that is a very different matter from curing forty-nine cases, for some of the patients undoubtedly had large appendix concretions or mucous inclusions, or tuberculosis, or other complications that are out of reach of any sort of medical treatment.

Under the best sort of medical treatment appendicitis patients spend more time in bed, suffer more, and die oftener than they do under the best sort of surgical treatment. Unfortunately there are as many kinds of surgical treatment as there are medical kinds in appendicitis work, and I do not blame busy physicians in many localities for not showing about good surgical treatment.

In an editorial article on page 343 of the *Times*, Dr. Pepper is quoted as saying that operation in appendicitis is not required in more than one case in twenty. This item has been going the rounds of the medical press in various forms, one abstractor going so far as to quote Dr. Pepper as saying that twenty cases to one are permanently cured without operation. I do not know what Dr. Pepper's original statement was, but if he stated that less than 25 per cent. of appendicitis cases die under medical treatment it probably means that as a great consulting physician he has been too busy to get detailed reports of the cases that he has seen, and a subsequent report on all of the cases that he saw in 1894 for instance, would be of great value to the profession, much more valuable than the destructive unfounded statement that the papers are making him give.

ROBERT T. MORRIS, M.D.
49 West Thirty-ninth Street, New York, Dec. 3, 1897.

DR. TERRY'S REJOINDER.

In reply to that most distinguished surgeon, Dr. Robert T. Morris, I take it for granted that surgeons and physicians have simply in view the *cure* of the patient. Furthermore, that the best of surgeons have made mistakes in New York City in regard to diagnosis. In conversation with one within the last six weeks, who occupies certainly not a second place in the city of New York, he said that he would hardly consent to the proposition that any one could make an absolute diagnosis before operating, even after I mentioned the author of the McBurney point. I stood beside the head surgeon of one of the largest and wealthiest hospitals in New York City, when he operated for appendicitis not many years ago, and the pathologist present failed to find any pathology in the vermiform process which was removed.

In looking over the reports of many operations by given surgeons it must be confessed that it logically seems unwise to put off the operative procedure in such cases, if the diagnosis is absolutely cleared beforehand. Since I have weighed carefully, however, the pros and cons, and with the authorities on my side for the belief in the power of the peritoneum to dispose of germs, sepsis and detritus of various forms, and since many surgeons seem to be favorable in regard to deferring operations and in carefully selecting the cases for operations, I will now give attention to some of the questions which Dr. Morris has so considerately placed before me for solution.

As my cases are the accumulation of five years' observation it would be a most difficult matter to trace out each one, owing to the change of residence of some, to the fact that others have been strangers to me, and to the consultation element entering into the proposition with physicians whose patients are located over a widely scattered territory. I can say, nevertheless, that I have never known of a case being operated upon. The learned doctor, I trust, understands me when I state that I consider in the field he occupies that there must be cases before him apparently needing operations more frequently than with me. I will not recede from my statement, however, that in localities where physicians and surgeons have ordinary intelligence only one in twenty-five patients needs to be operated upon. I have not yet learned that Dr. Pepper has denied, what has been attributed to him, viz.: that about one in twenty was the proportion for an operation.

In view of the fact that I am depending upon surgery for my livelihood, and that the treatment which I am advocating necessarily deprives me of a part of my income, it cannot be said that I have any motive other than the welfare of the people at large and, therefore, I am not leading anyone "astray" with any intent to help myself. Dr. Morris, I think, is not a believer in remedial measures, and I do not agree with him as to the causes usually set in motion inducing appendicitis. I am a great believer in *removing causes* and in *removing the friction of inflamed tissues relaxing them during the process of resolution*, and I shall take pleasure to direct the attention of those interested in the actual *curative* features of the "oil treatment" and not the mere "*subsidence*" *of the acute symptoms* in bringing up a few points for consideration.

It is well-known that when once an individual has pneumonia, an ulcerated throat, tonsilitis, or any inflammatory disorder in any part of the body he is more susceptible to a like inflammation in that part than before the first attack. In line with this fact I wish to state that subsequent pains, following what I consider to be a cure for appendicitis, are simply the same as with the other conditions mentioned, and that instead of being frightened by pain subseqent to the first onset, if there has been no neglect in the normal condition of the bowels, that a day in bed, or the treatment instituted for the inflammatory condition in the first instance, will soon cause the pain to subside, and as time goes on a susceptibility to such attacks will gradually disappear, as in the other cases mentioned.

In Dr. Morris's work, "Lectures on Appendicitis," he states as follows:

"The contents of the appendix usually consists of mucus with more or less fecal matter. Under ordinary circumstances semi-solid fecal matter and gas find easy entrance to and exist from an appendix with a large lumen, as the appendix has abundant muscular ability to empty itself, and it has at the cecum a good fixed point for muscular action. It is not an uncommon sight when we are employed in abdominal work to see an appendix empty itself of distending contents."

With such a fine working machinery why not help it by the lubrication of its tracks thus enabling it to throw out foreign substances, most of which has been produced by constipation? Any one can observe how Nature lubricates. If one's bowels act regularly and attended to them, there will be no tearing of the mucous membrane, which is the beginning of all sorts of rectal diseases. If you mentally say to your bowels: "When I have time you may be allowed to rid yourselves of your contents," what will be the result? The time having passed for the regular movement the normal secretions disappear and the contents of the bowels become hard and irritating. In the rectum there will result hemorrhoids and fissures, and there will be laid the foundation for cancer. In the cecum the same condition exists, but the contents are pocketed. The mucous membrane being dry, owing to the stasis of the moving debris from the system, the secretions are dried in the appendix and a slight inflammation soon produces strangulation of this infantile intestine.

What should be the natural treatment for such a condition? Cut off the little lubricating can of the ilio-cecal valve, or furnish an artificial means for bridging over the affair a condition brought about by neglect? Evolution is all right, but we have noted no great changes in the appendix for ages in man, therefore we believe the Creator left it there—not for the knife of the surgeon, but for some purpose.

To show the effect of oil, permit me to make some illustrations. They may create a weary smile, but what I say is nevertheless true. Many years ago I visited a case of "dry labor," so-called. I lubricated the internal and external os and asked the physician to wait half an hour before I used the instruments. After half an hour's walk we returned—just in time to catch the child as he made his advent. Soon after this case I was called to see an old gentleman, nearly eighty years of age, who had a right inguinal hernia which had been kept in its place for years by a truss. It had been down for three days when I was called and the parts were very much inflamed. The scrotum looked like a large hydrocele, but the swelling had extended up over the right inguinal region. He utterly refused an operation, fearing that he would die on account of old age, and he preferred to die naturally. "Do something other than operate," was the request. I gave him all the sweet oil he could take every three hours, also enemas of the same, using half a pint each time. He was poulticed with flaxseed also and sweet oil on the outside. n two days the hernia was reduced with the *greatest of ease.* I had tried very hard, to reduce it in the first instance. As this case furnished food for thought I applied the principle in a case of strangulated hernia in a young man who called me at 2 o'clock in the morning, but failed to reduce it after more than ordinary efforts. It was the slipping of an old, large, incarcerated hernia into the scrotum, and he was suffering great agony. I gave him a wine glassful of sweet oil every two hours followed by a glass of hot water, used flaxseed poultices with hot oil over the hernia, and gave him enemas of warm sweet oil. Internally he was given aconite in drop doses every one, two or three hours. The next day the patient was comparatively comfortable. This treatment was continued for four days, the patient's symptoms improving constantly. In fact, he was so comfortable the following day that I felt I could delay operating upon him indefinitey, but the fourth day, being unable to reduce the hernia, he was taken to the hospital and was operated upon. The tissues were not suffering and the man is now well.

The value of lubrication, I think, has been shown and it points out the way—not a dangerous one—for the cure of a majority of the cases of appendicitis. If the system of treatment, which has beenrecommended will be instituted at once (now that a large number of surgeons prefer to wait until the acute symptoms have disappeared) when the surgeon or physician is called, the knife will seldom be used. I am willing to abide by the suggestion of one of the best writers, Dr. Shrady, who, in the *Medical Record* for January, 1897, states:

"In fact, the increase of the three elements in the order of their importance, pulse rate, first; pain, second, and temperature last, constitute the cardinal indications for operation in every case and contrariwise, a decrease along the same lines, but more especially in the pain and pulse rate, means judicious waiting and safe conservatism."

Under the oil treatment manifest improvement will be set in motion within a few hours and marked results will be obtained within twenty-four hours in acute attacks so that the question of the operative procedure is usually abandoned within that time.

It is well to consider the opinions of surgeons of such prominence, who are calmly studying this subject, summing up the conclusions of others in many instances who are endeavoring to place the medical treatment and the operative procedure in their proper places. When so good a surgeon as Dr. Shrady states that "there is usually no necessity for haste in arriving at conclusions," and that "it is also true that there is no necessity for becoming alarmed without cause, or becoming accessory to the patient's death by an over anxiety to operate," is it not well to pause before we state that there is *no cure without the knife* and that *any medical treatment is only a "subsidence,"* of the terrible difficulty, which is sure to come again? Dr. Shrady states most emphatically in the article referred to, that even recurrent cases get well, "and remain well for an indefinite period."

In conclusion I have this to say in regard to the $1,000 of Dr. Morris:

That with my observation and experience the $1,000 which Dr. Morris offers to vindicate the operative procedure would be no inducement for me to use the knife in *any given case* which I have treated or been called upon to treat under the rules laid out and quoted in this article. I cannot see that I have been "misled" and no object could tempt me to use the knife so long a· I believe I am not trifling with "precious lives" confirmed by my keeping within the limits of reasonable surgical delay.

It is a matter of regret that my reply is so lengthy, but it is thought that the subject demands even more space than has been accorded it.

M. O. TERRY.

CASE OF CHRONIC CYSTITIS.

To the Editors of THE MEDICAL TIMES:

Some years ago, when I was younger than I am at this present, a case of chronic cystitis came under my care for treatment. The patient was pale and anæmic, skin loose and flabby; muscular system atrophied until the muscles were mere shreds and tendons. The urine was voided every hour with much difficulty, for the *ardor urinæ* was great. The urine was heavily loaded with urates, and the mucus discharge so great that often the flow was obstructed, and when passed into a urinal one-third of the contents would be sediment of mucus, and after standing some hours would become of such a consistency that it was with difficulty it would leave the vessel. The extremities were cold, as is most always the case, and a clammy sweat pervaded the whole body. The outlook was a gloomy one, yet the patient seemed to have a great degree of vitality and full of spirits and ready to give or take a joke as when in better health; while my forebodings in the case were anything but encouraging, yet I resolved to give him my best judgment and leave the result to a higher power. Now follows the treatment:

℞ Tinct. aconite	1 minim.
Potassa nit	grs. ii.
Aqua pura	℥ ss

M. S. To be taken every three hours.

This little prescription I continued for three months without any interruption, with one ounce of *spiritus frumenti* every morning, at the end of which (although my patient thought it a long while yet was compelled to say that he was better)the mucous discharge had almost disappeared, and the desire to void his urine, extended to three hours, and was passed with comparative ease. My patient, seeing plainly the improvement he had made, was satisfied, and so was I. This little treatment was still continued for three months longer, at the end of which time he persisted in saying that he was well; yet while such seems to be the case I still have him use the rain water as a permanent drink, with the *stimulus* as before. The rationale of the treatment, the *spiritus frumenti,* acted as a stimulant which he so much needed, as well as a tonic that, inasmuch as he was able to eat more hearty and substantial food by its use, which went to build up a debilitated and, as it were a broken-down system. The aconite, which in large doses lessen the heart's action, small ones are more of a heart tonic, and increased the flow of urine, at the same time allayed the irritation of the sensatory nerves, and the urine was passed without the *ardor urinæ* as before. The potassa nitrate neutralized the urates, and distended the arterioles and thereby established the capillary circulation, making a long stride in the direction of repairing broken down tissue. It is a great appetizer, and enables the stomach to digest the more nutritious foods and to assimilate and appropriate it to the uses of the body, etc. Now, if what I have said is of any value, and will cause one person to reflect, I shall be well rewarded.

JAS. A. HOPKINS, M. D.

Milton, Del., Dec. 23, 1897.

Tattooing, according to the *Press and Circular*, was an ancient method of treatment, the forerunner of scarification. A mummy discovered in Egypt in 1891, that of a priestess of Hathor, some 5,000 years old, displays traces of a methodical tattooing of the abdomen, suggesting that the cause of death was generalized peritonitis. Tattooing is still resorted to in Egypt as a remedy for periostitis, arthritis, synovitis, and for migraine and neuralgia.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

CONGRESS OF THE FRENCH ASSOCIATION OF UROLOGY.

Foreign Bodies in the Bladder.—M. Picqué—I have performed two operations for foreign bodies in the bladder. The first was the case of a woman who had entered the hospital for salpingitis. During examination there was an escape of bloody urine, which established the diagnosis of a foreign body in the bladder. The original operation was practised, and there was found a fragment of an ivory penholder, about ten centimeters long, with its extremity surrounded by a large calculus. In the second case—that of a man—there was urethral contraction, with slight vesical symptoms. Uretrotomy was practised and as the symptoms of cystitis continued, a vesical examination determined the presence of a large calculus. By the hypogastric operation, a white calculus was discovered, around which was rolled a conducing bougie for uretrotomy, which had evidently been left in the bladder during an anterior uretrotomy.

Urethral Polypi.—M. Janet, of Paris—Polypi of the urethra, so common in women, are far from being rare in men. They may be divided into polypi of the fossa navicularis, visible with the naked eye, and the deep polypi, accessible only by the endoscope. Among the deep, some are connected with the hard projections of the contraction, others are independent. Urethral polypi may be divided into smooth vermiform polypi, which, in four of our observations, were always unique and fixed to the inferior wall of the bulb, and into the papillomatous polypi, multiple and scattered upon several points of the anterior urethra, have never seen them upon the posterior. In one case the multiple polypi occurred coincidently with the vermiform polypus of the bulb. Their ablation is effected by means of ligation in the case of the verniform, by the curette and galvano-cautery on that of the papillomatous. The latter have a greater tendency to recur than the former. These observations tend to urge recourse to the urethral endoscope in all cases of chronic urethritis that are rebellious to treatment.

Non-Gonococcic Urethritis.—M. Paul Nogués—The existence of non-gonococcic urethritis does not invalidate the specificity of the gonococcus. The diagnosis is easy, for the identity of the diplococcus can always be established. Direct microscopic examination is generally sufficient, and it is rarely necessary to have recourse to cultures. Criticism of observations already published, and the results of personal researches show that pseudo-gonococci do not exist. The association of gonococci with other microbes, though frequent in women, is exceptional in man. Non-gonococcic urethrites are primitive or secondary accordingly as they are observed in a canal free from all inflammation or not, and from anterior injury. The resistance that the normal urethra offers to infection explains the rarity of the first and the diversity of microbic forms that may cause them. The second are much more frequent, but yet it often happens that in infections localized in the fossa navicularis, the deep portions of the canal remain intact, as shown by examination of the filaments. They may be occasioned by all sort of micro-organisms. The most frequent forms have been described; they are five in number, three micrococci and two bacterial. The urethrites, called aseptic, are also primitive or secondary; a diagnosis of the first can only be made after a negative result of direct microscopic examination and culture. As respects the diathesic urethrites, their existence, except perhaps the herpetic urethritis, is as yet problematical. Secondary aseptic urethrites are of all the most frequent. Their causes are various; two, however, seem to hold the most prominent place in their etiology. They are permanent irritations of the urethra, especially the epithelial lesions, hence histological examination of the filaments is indispensable. The usual complications of bleunorrhagia, rheumatism, and particularly orchitis, may be seen in the course of non-gonococcic urethrites. The contagiousness of chronic discharges can only be established by bacteriological examinations of the discharge and the filaments. The persistence of a slight secretion at the meatus does not necessarily involve the idea of contamination; it must, however, to avoid danger, present certain determinate characters. The treatment varies accordingly as the discharge is microbic or non-microbic. The cure, very rapid in the first, is more difficult to obtain in the second. M. Jules Eraud, of Lyons—What is the pathogenesis of different non-gonococcic urethrites? It is the coitus, or chemical, traumatic or congestive irritants. Etiologically speaking, we believe that the gonococcus prepares the way to institute saprophytic functional action, and thus contributes to the creation of urethrites. But the others, the primitive, those which declare themselves independently of gonococcic action, and for which traumatism coitus, masturbation, the ingesta, etc. are invoked, how are they to be explained? Upon this question I have no truly scientific argument to offer, so I prefer to remain in doubt. Again, are these urethrites contagious? Can a man contaminate a woman, and *vice versa*. This is a difficult question to decide, and which experimentation, and inoculation can perhaps contribute, if not to determine, at least to throw some light upon it. Undoubtedly saprophytes exist in man, but not equally in woman; and the vagino-urethral flow of the latter does not appear to be so distinct from that of man that different microbic forms can be recognized in the two sexes. What then is the role of one or the other microbic form in one or the other sex? During coitus, can there be a sort of aspiration which causes the microbes of the vagina to be absorbed by the male urethra, or a diastasis operating according to conditions yet to be determined?

To all these interrogations the best answers are doubtful, and the problem is more complex than is supposed. Next to the polymorphism and the transformation of microbes, which are now admitted, should be placed the other question of toxalbumin, which doubtless goes farther to explain the mechanism of pathogenesis or contagion, than can be exclusively ascribed to the presence of the microbe. As respects treatment, there is nothing more than we already know, and consists of all the therapeutic modes or methods usual in the course of blennorrhagia, whether acute or chronic gonococcic or not.

Prolapsus of the Rectum in a Child of Five Years.—Gangrene and Large Perforations of the Intestine—Resection and Cure.—M. I. Reboul, of Nimes—Prolapsus irreducible, perforations giving issue to fecal matter. Despite the bad condition of the child, total resection of the prolapsus was made, suture of the intestine to the skin, rectoperincoraphy. Several days after the operation a large quantity of lumbricoid ascarides was voided. Perfect cure, now lasting six months. In this case, the prolapsus was due to whooping cough, was aggravated by the ascarides which weakened the child and provoked intestinal contractions. The fact of total prolapsus, with gangrene and perforation, shows that even in children, this affection may present grave complications necessitating operation and total resection of the prolapsus, and that despite the debility of the child, a lasting cure can be obtained.

A New Method of Gastro-enterostomy by Invagination.—M. Faure, of Paris—We all know that one of the gravest inconveniences of gastro-enterostomy is the passage of the food into the upper opening of the intestine, where it accumulates, and often determines fatal results. Many of the methods, viz., the valvular, secondary jejuno-jejunal anastomosis, gastro-enterostomy, etc., do not remedy this trouble. In order to obviate this I practise an invagination of the stomach into the intestine so that the invaginated gastric cone presents an opening directed to the lower opening of the intestine. By this means the food passes necessarily from the stomach into the lower opening and cannot flow back into the upper opening.

French Congress of Surgery—Post-anesthesic Paralyses.—M. Schwarz—Paralyses of different kinds are sometimes observed to follow operations in which general anesthesia has been employed. They are usually manifested after narcosis, and to cause surprise by their absolutely unforeseen appearance, but their radical cure is easy and rapid. Post-anesthesic paralyses, or post-chloroformic, as they are usually designated and described, show themselves in two distinct forms. Sometimes they are peripheric, especially those of the brachial plexus and its branches, and are interesting because of their preference for the upper limbs. They often assume the clinical type, known as the type of Erb, and involve the deltoid, the brachialis anticus, the biceps and the supinator longus with occasional paralysis of other muscles. The pathological question is difficult to decide. Are they toxic paralyses, as supposed by Büdinger and Bernheim, similar to

alcoholic paralyses, and owing to a special action of chloroform producing a degeneration of the nervous substance, when this constitutes a "locus minoris resistentiæ?" We do not think so, because of the rarity of the facts and because of their occurrence when the duration of the anesthesia has been very short or incomplete. Is it a simple coincidence? This is possible, but not demonstrable—on the other hand, it is reasonable to think that the arterios clerosic and those individuals whose arteries are diseased may, during chloroformization or etherization, and the period of excitement with vociferous cries, and efforts of vomiting cause vascular rupture, or other lesions showing themselves by various signs. Facts as reported by Depage, Gross and Büdinger indicate their existence. Finally, hysteria may intervene in certain cases and while we do not recognize hystero-traumatism, yet it is as well to look for it in this connection. From a practical point of view, it is impossible to foresee an accident, but distrust may be felt in the patho-arterial or the cardiac and except in cases of total hemiplegia, recovery may be most generally expected.

Surgical Treatment of the Disease of Little—M. Lebrun, of Namur. In three cases of this disease, I have pursued the method indicated by M. Marfauin, 1894, and an analogous method by M. M. La Bonnardiere and Vincent, of Lyons, in 1895. They consist of a methodical education of the limbs, at first by passive movements of extension and flexion, and if fibrous contractions of the tendons exist, practice tenotomy and massage at the same time. Then active movements and finally exercise by walking facilitated by orthopedic apparatuses.

Plantar Perforations Treated by Nerve Elongation.—M. A. Chipault, of Paris—I have already, on many occasions, proved the possibility of curing rapidly and definitely plantar perforations by elongation of the nerves occupying the locality of ulcerations. The number of my observations has now greatly multiplied, and I am authorized to conclude that elongation secures by the first intention the cure of the most inveterate plantar perforations, and to add that it is probable that a similar intervention would have an influence of the same kind upon trophic ulcerations elsewhere, for example ulcerations of the wrist, and certain affections of the skin, zoniform, zosteriform, or others whose characters or topography would permit us to affirm their trophic pathogeny.

Rachitic Deviations of the Lower Limbs in Children Treated by Osteoclasy and Osteotomy Combined.—M. Albertin, of Lyons—These affections of children justify many therapeutic methods, orthopedic treatment alone is very often insufficient, and it becomes necessary to have recourse to a more active intervention. By osteoclasy the incurvations of the femur can be restored, while osteotomy may be reserved for deviations of the tibia and fibula. The combined employment of these two methods perfects the cure of these deformities as respects both function and utility. My conclusions are based upon 200 observations.

Juxta Coxal Tuberculosis.—M. V. Ménard—I have observed a certain number of patients in whom a tuberculous deposit developed upon the femur or the pelvis near the hip, occasioned symptoms analogous to those of coxalgia. While there is a certain analogy between the symptoms of juxta coxal tuberculosis and those of coxalgia itself, the differential diagnosis between the two localities, articular and juxta-articular is very easy to make. The associate articular signs have not the gravity of those which are observed with abscess.

Complete Section of the Internal Popliteal Sciatic Nerve by Gunshot.—Suture of this Nerve to the External Popliteal Nerve.—Cure with the Re-establishment of the Functions of the Limb.—M. I. Reboul, of Nimes—In a hunting accident a young man of nineteen years was wounded in the left popliteal region. Several months after the cure of the wound, he could neither walk nor hold himself erect. After a painful dissection of the parts, and exposure of the popliteal nerves, I discovered that the internal popliteal sciatic nerve was completely divided, that its two ends formed two olive-shaped neuromata, which contained grains of lead, and were separated from each other by six centimeters. The external popliteal sciatic nerve was flattened and compressed by cicatricial tissue, and also contained grains of lead. Not being able to reunite the two divided ends, I insinuated the peripheral end of the internal nerve into the whole substance of the external, maintaining the two grafted nerves in connection by four silk sutures, thus making an entire interstitial graft. At the present time the sensibility has returned, the patient is beginning to walk, and the muscular atrophy is becoming less and less appreciable.

Appendicitis Complicated with Purulent Pleurisy.—M. G. Rioblanc—A soldier entered the hospital of Desgenettes for an appendicular suppuration. An iliac incision evacuated about 250 grammes of fetid pus, and produced a depression and apyrexia which lasted eight days. Then there ensued signs of a right purulent pleurisy, accompanied with cortical congestion of the lung, and a grave septicemic condition, temperature forty degrees, ataxo adynamia, etc., empyema was practised, but soon the operative wounds reopened, and the coecum was denuded and perforated. This condition lasted three weeks, and the cure progressed after a transfusion of blood, but with the persistence of an artificial anus. At the end of five months, a third operation, with peritoneal incision lateral enteroraphy, cure complete.

Latent Biliary Lithiases and Their Surgical Treatment.—M. Duret, of Lille—In cases where there is neither icterus, nor tumor in the region of the gall bladder, nor the ordinary concomitant symptoms of biliary lithiases, the patients seek to be relieved of their long suffering by surgical aid. This is effectual, and it is to be regretted that they are refused, as we sometimes see, because there is no apparent tumor. The operation, often difficult, consists of cholecystectomy or of cholecystostomy. Despite the difficulties, the cure is nearly always effected, eleven times in twelve, calculous cholecystitis complicated with lumbo-sacral adenitis. M. Monlonguet, of Amiens—In a young woman, very much emaciated and complaining of violent pains in the left sciatic, I found in the abdomen, an elongated tumor on the vertebral column, immovable, and extending into the lower pelvis. After laparotomy, and incision of the posterior parietal peritoneum, I fell upon a chain of large lumbo-sacral ganglia, the largest, about the size of a turkey's egg. They were carefully removed, and the posterior peritoneal incision closed. Then searching among the viscera for the cause of this enormous lumbo-sacral adenitis, I found the gall bladder transformed into a hard pouch, under the liver, and projecting below its free border. It contained a few drops of a viscous liquid, and was filled up by fifty-four small polyhedric calculi attached to each other. I performed cholecystostomy, clinical results and histological examination proved the existence of a large inflammatory adenitis caused and maintained by a calculous cholecystitis, and compressing the left sciatic nerve.

Colectomy for Cancer of the Colon.—M. Tedenat, of Montpellier—Cancer of the colon is far from being rare. In 7,878 cancers of the different organs, 401 were located in the rectum, ninety-nine in the spleen and intestines, the majority in the colon. Williams, Annals of Surgery, 1881. Provided that the mesocolon is slightly, or not at all invaded, and the tumor is not too adherent to the neighboring organs, it is possible to mobilize it and to separate the diseased part without the abdominal incision. In these cases colectomy, followed by immediate enteroraphy, is suitable, provided the resected portion is not too extensive. Suture appears to me preferable to the button of Murphy, and I always employ it.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

On Eucaine Hydrochlorate.—There are two preparations of this drug on the market respectively designated "*A*" "*B*," and "*B*" is the one which should be used exclusively for ophthalmological purposes, in 2 per cent. solution. Statements have been going the rounds of the press announcing the failure of this remedy, which are misleading and not in accordance with the facts. It is no doubt a valuable remedy for many purposes and much less dangerous than cocaine. Eucaine "*A*" may be employed in solutions similar in strength to those of cocaine in general surgery; while eucaine "*B*" should be used in eye and genito-urinary cases, in from ½ to 2 per cent. solutions.

Since the introduction of eucaine hydrochlorate into the Out-patient Surgical Department of the Jefferson Hospital, Philadelphia, cocaine has been placed on the shelf. At one time this department used cocaine quite extensively as the means of including local anæsthesia; but alarming symptoms from its use in some of the cases caused its banishment, and not a drop of cocaine solution has been used in this department since last July, we are told. Prof. Brinton admires eucaine hydrochlorate because it is rapid in action, safe, produces positive and prolonged anæsthesia, and causes no serious after-effects. In minor operations, such as the removal of a toenail or small tumors, the amputation of a finger or a toe, the extraction of a splinter, etc., he recommends the use of from one to two drachms of a 5 per cent. solution hypodermically, and insists on waiting five minutes after the injection is made for complete anæsthesia.

Vapor Bath for a Patient Confined to Bed.—A writer in *La Presse Medicale* (*Med. Brief*) recommends the following method as an efficient means of causing a profuse perspiration in patients who have to be treated in the recumbent posture: Spread a blanket over the bed upon which place the patient dressed only in his shirt. Under each foot and at each side of the body place a well-corked stoneware jar of boiling water. Before being placed in position each jar should be covered with a damp towel or several wet napkins, and afterward covered with a piece of flannel. After the jars are placed in position the blanket is folded over the patient and he is then covered with another blanket and an eiderdown quilt.

In a quarter of an hour the patient finds himself in a real vapor bath, which brings on a profuse perspiration, lasting for a time varying according to the circumstances. If it is considered advisable to increase the perspiration warm drinks may be given.

In order to take the patient out of his vapor bath, the blankets upon which he lies and the jars are withdrawn without uncovering him and his body is dried under the second blanket and the eiderdown quilt, which are allowed to remain. After twenty or thirty minutes his linen may be changed.

Leprosy Treated with Airol.—Dr. Domenico Fornara (*Therap. Woch.*, IV. No. 5, p. 71, *Am. Med. Surg. Bull.*) reports remarkable results from the use of airol in a case of leprosy. The disease had already invaded the eyeball and produced abscesses in the clavicular region, when, after vain experiments with other remedies, he decided to try a 10 per cent. ointment of airol, rubbed over the entire body. Encouraged by the improvement noticed, he decided to inject airol into the leprous tumors. The results were remarkable indeed. The small nodes disappeared the larger ones became smaller, the abscesses healed, the conjunctiva became normal, and the hair began to grow again. The mixture used for injection consisted of airol, 5; glycerin, 35, and distilled water, 10. That the airol is absorbed, partly at least, by the blood is shown by the fact that after the injection the author found traces of iodine in the urine, and after some time there appeared a grayish line about the gums, due probably to the bismuth. (As is known, airol is chemically bismuth-iodo-gallate.—W. J. R.) Dr. F. hoped to present his patient to the leprosy congress in Berlin, completely cured. (The case has been examined by Prof. Profeta, of the University of Genoa, and by him the diagnosis of leprosy confirmed.)

Strophanthus—Dr. R. W. Wilcox has made careful study of this drug, a full report of which may be found in the journal of the American Medical Association, Sept. 11, 1897. His conclusions are as follows:

From my observations we may fairly conclude: 1. The tincture of strophanthus kombé (pubescent variety) is an active and eligible preparation of which the maximum dose should be five drops four times daily. Of the tinctures made from strophanthus hispidus, which are found in the shops, many are inert or nearly so. 2. The fluid extracts of strophanthus hispidus and of strophanthus kombé (both varieties) are unsuitable preparations on account of the digestive disturbances which they occasion, and these appear to be independent of the amount of strophanthin contained in the crude drug. It is likely that the character of the preparation is responsible for these untoward effects and possibly it may be so changed that these objections will be removed. 3. The hypodermatic tablets of strophanthin as prepared from all kinds of strophanthus, and are satisfactory preparations in dose of from 1-350 to 1-200 grain, and are not irritating to the digestive tract. The source of the glucosid, and the strophanthin percentage of the crude drug are apparently without influence on their activity. The reputation which strophanthus enjoys of being an irritant drug is probably based on the use of the fluid extracts.

These tablets do not, so far as limited experience indicates, irritate when used hypodermatically and the smaller dose (1-350 gr.) seems to be sufficient for all practical purposes. . . . .

The advantages of approved preparations of strophanthus over digitalis are: 1. Greater rapidity of action. 2. Absence of so-called cumulative effects. 3. Non-interference with the caliber of the arteries. On the first point it can be truly said that reliance on digitalis for the emergencies which may occur in surgical cases is absolutely without a scientific basis. On the second the fact that digitalis has ceased to be quite as harmful, as it might be helpful, only since the practice has become general to combine it with a nitrite is sufficient reason for the use of strophanthus. And lastly the marked safety of strophanthus in the aged, nephritic, gouty and atheromatous, as well as the fact that it should by the cardiac remedy for children, needs no argument for the search for reliable preparations. The reputation of strophanthus has suffered in the past from the variability, unsuitabily and unreliability of the commercial preparations. That is now removed and we know the dose and the preparation on which we may rely.

RETROSPECTIVE DIETETICS.

The Treatment of Diabetes.—As a result of careful personal observation of a typical case of diabetes, as well a. from the quoted experience of others, Monson (*Jour. Am Med. Asso.*) has undertaken to show that a diabetic should be placed under no different conditions of diet than are granted the healthy individual, and that a rigid exclusion of carbohydrates from the diet is productive of abnormal metabolic changes, which result not only in progressive emaciation and weakness, but also in the production of various toxic bodies, to which the severe cerebral symptoms of this disease are to be attributed. From this study the conclusion is reached that sugar is always present in the blood, and that the absence of carbohydrates from the diet does not cause a disappearance of the blood sugar. Hence sugar must have some other source than the carbohydrates ingested. This other source of sugar is the ingested add systemic albumen, through a process of decomposition. An increased albumen decomposition, due to the rigid enforcement of a purely nitrogenous diet, means an increased metabolism and consequent loss of body weight. Hence the cutting off of carbohydrate from the diet directly produces an increased metabolism.s *Vice versa*, the administration of carbohydrates retards metabolism. The diabetic has an especial predisposition towards matabolism. The diabetic has by no means lost the power of burning sugar; therefore sugar must, even more than in health, be allowed, in order to prevent loss of weight and muscular weakness, which may eventuate in one of the natural endings of diabetes, death by asthenia. The abnormal albumen metabolism which is especially produced by a rigid proteid diet, results in the production of toxic bodies, for the action of which the depressed nervous condition of the diabetic is especially favorable. The production of toxic bodies is prevented or retarded by the administration of carbohydrates. Hence, carbohydrates should be administered to the diabetic to prevent the formation of certain toxic bodies, and the severe and often fatal nervous and cerebal symptoms which they induce.

MISCELLANY.

—A French physician is reported as advancing the theory that whooping-cough is contagious only before the patient begins to whoop.

—Dr. Oliver Wendell Holmes used to say of the study of pathological anatomy, that it is a good deal like the study of the fireworks after the Fourth of July.

—There have been but two deaths out of ninety major operations at the new hospital for women in Euston Road, London, England. All the surgeons are women.

—Cigarette smoking in Japan is on the increase. Every month 13,000,000 imported and 52,000,000 native cigarettes are being consumed. Women and children smoke almost as much as men.

—At a recent meeting of the New York Academy of Medicine, Dr. Martin W. Ware exhibited under the microscope a tubercular gland from an infant who had been infected with tuberculosis during a ritual circumcision.

—A hospital for the treatment of consumptives and persons suffering from contagious diseases is contemplated at Asheville, N. C. Mr. George W. Vanderbilt proposes to donate $100,000 toward the construction of the institution.

—A death occurred last September, in Chester, near Middletown, N. Y., from rather an unusual cause, the effects of ivy poisoning. The patient was a female, sixty-nine years of age, who came in contact with the plant early in July.

—Statistics of life insurance companies show that in the ast twenty-five years the average of woman's life has increased from about forty-two to fifty-six years, or more than 8 per cent. In the same period man's life on the average has increased in length 5 per cent.

—Dr. Fred. D. W. Evelyn, of St. Luke's Hospital, San Francisco, claims, as the results of fifteen years' experiments, to have found a certain cure, by inoculation of horses' blood, for drunkenness, as well as for the transmission of the hereditary taint of alcoholism.

—A little boy of Beaver Falls, Pa., placed the tube of a bicycle pump in a baby's mouth and began pumping in air. The child's stomach swelled like a balloon and in a few minutes she became unconscious. The mother is reported to have arrived in time to save the child's life and probably "blew up" the little boy.

—A plan is being recommended by French physicians to cure colds by applying ice to the spine. Indeed, nowadays the curative value of cold is being highly spoken of, and the inflammatory sore throat which used to be treated by poultices and warmth is now said to be easily and quickly cured by sucking ice and keeping the patient in a low temperature.

—The market value of a cough was the question submitted to the Birmingham (England) County Court. A barrister sued a railroad company for fifty pounds for discomfort suffered by smoking being allowed in a waiting-room at a station and in non-smoking carriages. The smoking aggravated the barrister's cough, and he was awarded ten pounds.

—To render words spoken of and concerning a physician actionable, the Supreme Court of Indiana states, in the case of Divens *vs.* Meredith, they must be spoken of him in his professional character. It is not enough that the language disparages him generally, or that his general reputation is thereby affected, or that the words used tend to injure him in his profession.

—After careful examination of a lung freshly removed from a man killed in Sing Sing prison, Dr. Thomas H. Manley concludes that death from the electric shock is vastly more agonizing than by either the rope or the guillotine. The fact is, he says, we have no proof that any power can instantly destroy *all* the processes of life, and hence common decency should require delay of autopsy for at least twenty-four hours after execution.

—Dr. H. O. Hyatt reports, in the *Philadelphia Polyclinic*, the case of a girl who was a grandmother at twenty-six, having had an illegitimate daughter a month before her thirteenth birthday. This daughter was married at twelve years of age, and had a son when twelve years and eleven months old. She has since had seven children, is in fair health and does not look prematurely aged. She grew four inches after the birth of her first child.

—Professor Mikulicz, of Breslau, has published an account of the favorable results obtained from operating in gloves for three months. Fine thread gloves made aseptic in steam are used, the hands being disinfected and washed in the usual way before they are put on. During long operations the gloves have to be changed several times. No operation is rendered awkward or difficult by their use, and it has been found even easier to take and hold tissues in gloves than with the bare hand.

—The profession is unanimous in condemnation of rubber nipples and tubes in connection with infant feeding bottles. It is not possible by ordinary methods to keep milk soaked rubber clean. There is oil enough in milk to soften rubber, and the germs and products of fermentation cannot be removed from tube and nipple except by processes that rapidly destroy rubber. The only way is to banish the apparatus from the nursery. Municipal law must be invoked to prevent their sale.

—Miss Hetty L. Purdy, of Derby, Conn., 100 years old, was born in Rye, N. Y., June 15, 1797. At the age of eighteen, she was engaged to Dr. Seaton, a wealthy young Englishman, who was studying under Dr. Bailey, of Rye. The wedding day had been set. Dr. Seaton started on a flying trip to England. He was to return on the day before the marriage. But on the trip over, his generous impulses prompted him to treat gratuitously a poor seaman, who was in the throes of ship fever. The physician contracted the disease himself, and in two days died. The young girl vowed she would never wed, and, although suitors appeared, she kept her vow.

—Dr. W. Gilman Thompson (*Medical News*, January 2, 1897) is a distinct disbeliever in the cases of excessively high temperature so frequently reported in the journals. Temperatures of 120 or of 140 degrees, he maintains, are inconsistent with life. He has had an experience with some of these hysterical patients—or, as he prefers to call them, malingerers, and believes that in the majority of cases the high records made are secured by the patient adroitly tipping or shaking the thermometer, and in that way making the mercury slide along the scale without the application of any other force. One of the most famous cases was one he himself detected in this trick.

—An amusing incident has gone the rounds of the German papers. A flagman on the Basel-Olten Railroad received notice from headquarters that he would be fined if his wife was again seen flagging a train. The man replied that his wife had never done so and furnished the following explanation. His wife having been delivered of a baby found it necessary to have an additional supply of milk and asked her husband to milk the family goat. This animal, however, was unused to any one but the woman herself, and the flagman, to save unnecessary trouble, dressed up in his wife's clothes and thus deceived the goat. Just then a whistle reminded him of his post of duty and he saluted the flying express in petticoats! No fine has been imposed.

—Believing that drinking-water is the cause of goitre and secondarily of cretinism, and after proposing various means of procuring pure and safe water, Professor Kocher says: "If they prove impossible then nothing remains but to do as surgeons—and the Chinese—do: *Boil the water*. We look with proud contempt upon the tail-wearers of the heavenly land, but this time we wear the cue. The Chinese cannot comprehend why these barbarians of the sunset land drink raw water and I, also, fail to understand it. To eat most of our food in a raw state would disgust us and yet, undoubtedly, we poison ourselves daily by drinking raw water. Between water as a beverage and bathing-water should be drawn a heavier line than as yet been done."

—In Buenos Ayres (*Atlantic Med. Weekly*) there is one physician to each thousand inhabitants. Medical students have increased to such an extent that there has been a movement started to close the medical schools for a period of five years, so that the profession shall not be crowded. In the United States there is one physician to about every five hundred inhabitants, and with enough medical students to double the number of physicians during the next eight years. There is, however, no movement on foot to close the medical colleges, but there are several movements on foot to start new ones

ORIGINAL ARTICLES.

ON THE APPLICATION OF THE FOLLOWING UNDERLYING PRINCIPLES IN THE STERILIZATION OF LUNG TISSUE IN TUBERCULOSIS.*

By J. Mount Bleyer, M.D., F.R.A.M.S., LL.D., New York.

(By Special Request.)

SCHÖNBEIN in drawing his conclusions regarding the nature of ozone assumed that oxygen was capable of three distinct conditions, viz.: ozone, electro-negative antozone, electro-positive and neutral oxygen, which, as its name indicates, has no polar distinction, but could be polarized at will.

Of these three so-called forms of oxygen, the investigations of the observers since the day of the great Basle chemist have much changed our views. To-day we admit the existence of only two forms of oxygen—ozone and neutral oxygen, and for the sake of elucidation I give you the graphic construction of the molecule as I believe it to be:

$$\overline{O}\ \overset{+}{O}\ \overline{O} = \text{ozone.}$$

$$\overline{O}\ \overset{+}{O} = \text{neutral oxygen.}$$

Assuming, as he and the aftercoming observers did, that oxygen in its free state was neutral, and it so proved to be, he reasoned, and it is within the pale of all researches, even up to our own time, that as soon, or rather as I have found it, just before, this oxygen enters into combination with either organic or inorganic substances in the presence of moisture it becomes polarized.

Carrying these conclusions into the field of physiological chemistry, he became convinced that the corpuscles like phosphorus were possessed of the power of polarizing the oxygen in the lungs, and further of splitting up the molecules and rearranging them in the form of ozone. His idea was that ozone existed in the blood, that it was the vital oxidizing agent by means of which the recuperative changes in the tissues were brought, yet the years of careful work he devoted to searching failed him in finding the slightest trace of ozone in the blood.

In his later years he became equally emphatic in his assertions that the resolution of ozone—its oxidation—was so rapid that in the blood and the moistened tissues surrounding the capillaries, where the real respiration is accomplished, it would be next nigh impossible to chemically detect the presence of ozone by the most delicate test. He even went so far as to doubt its existence in the blood; that is to say, he believed that it was ushered into existence and was used up in performing its function so quickly that it was not possible to chemically isolate it, that in the blood of the capillaries—presumably the radicals, although he does not so put it—where the pressure conditions are such as to allow of the free interchange of the gases of the blood with the tissue elements, ozone no longer existed.

Like many other great minds Schönbein was right in many of his claims but in many other of his theories he allowed himself to fall into error, for in justice to those who came after him to study this question of the physiological significance of ozone, and with no discredit to his greatness, Schönbein left much to be cleared up and explained. The ever changing and improving chemical facilities and knowledge made this task far more easy. With the advantages afforded by the chemistry of his day, Schönbein accomplished a herculean task. That famous physiologist His, who had grown up in the shadow of Schönbein's laboratory and influence, also failed to discover the existence of ozone in the blood.

At the very time he was engaged in his futile efforts, Alexander Schmitt was at work upon the same question—ozone in the blood.

I need not rehearse the details of Schmitt's methods, suffice it to say his experiments were elaborate and carefully made; but the quantity, apparently, was very small.

Not long afterward Kühne, improving on Schmitt's tests, proved that ozone existed in the blood in readily appreciable quantity, and the question was forever settled in the affirmative.* Kühne concluded, and his deductions were not far from approximating the truth, that the red corpuscles greedily absorb ozone under the natural formation of carbonic acid, and decompose water as free oxygen is liberated.

My experiments on the blood with the galvanic current are in a line with those of Kühne and Schmitt, only a short step in advance of those observers, a mere completion of their unfinished tasks. Whatever value the results I have obtained may have, there can be no doubt that the galvanic current, applied to the living body, whatever else its action may be, increases the amount of ozone both in the corpuscle and the plasma. Before entering into a rehearsal of the details of my experiments, let me briefly touch upon the physiology of the blood and the function of its gases; for here it was that I suspected the seat of first physiological action of the galvanic current, and here, too, I was led to trace to its source, animal electricity, and observe its function as I suppose it in the human economy.

THE BLOOD—ITS GASES AND SOLIDS.

The gases in the blood, the carbonic acid, the nitrogen and the oxygen, which interests us in particular, need not be gone into at length.

The oxygen in the blood exists in two forms.

First, that which is held in solution by the plasma, and second, that which enters into combination with the constituent elements of the corpuscle. The first variety commands our attention for the reason that, to all appearances, the galvanic current first acts upon this freely dissolved oxygen and which naturally, therefore,

* Read before the Twelfth International Medical Congress at Moscow, Russia, August 19 to 26, 1897. This paper to be followed by another communication setting forth the clinical value and the practical application of the various electrical contrivances for sterilization in tuberculosis.

* Kühne & Scholz, Virchow's Archives, 1865.

first undergoes the transforming change from O_2 into O_3. With a single exception, that of defibrinated blood, the blood obeys Dalton's well-known law of the absorption of gases by liquids. In vacuum 100 volumes of blood give up a trifle over seventy-two volumes of gas, of which in arterial blood twenty volumes, upon analysis, consist of oxygen, while in venous blood the volume is reduced to between eight or ten.

The plasma simply holds the oxygen in solution, while the hæmoglobin, which by actual weight makes up 90 per cent. of the dried corpuscle, enters into partial combination with the oxygen, although I have observed, and the observations are in keeping with those of other observers, that the oxygen in the hæmoglobin is in such a loosely combined state, that it readily solves its bonds of union, and under the slightest provocation goes over to the other elements for which it has affinity as soon as the pressure conditions of the plasma are changed so as to permit of a loosening of its bonds.

Plasma, or to be more accurate, fresh serum, will, upon exposure to the air, absorb no more gas than ordinary water under similar conditions, some three volumes; defibrinated or whipped blood, however, contrary to what might be expected, takes up considerably more. This will suffice for the behavior of the gases of the blood. Now a word about its solid constituents.

In general, in the plasma there are serum-albumen, globulin and crystallizable fatty and nitrogenous matter which, as I shall endeavor to show, are rendered more diffusible by this very transformation of oxygen into ozone, so caused by the polarizing action of the existing animal electricity of the body, or may be rendered even more diffusible by the action of the galvanic current. In the larger vessels, for example, the carotid artery which I have chosen as the seat of my experimentations, not only because it is accessible and convenient, but rather because it is a direct branch of the aorta where both the plasma and corpuscles are equipped with all the oxygen they can carry, the blood is charged to its full capacity with those elements which it is commissioned to give up to and upon which the tissues depend, particularly for oxygen. All physiologists agree that in these large vessels carrying arterial blood the hæmoglobin in the corpuscle is in the form of oxy-hæmoglobin, which signifies simply that the hæmoglobin has entered into partial combination with as much oxygen as it can hold, and that it is ready to transfer this oxygen to the tissues as soon as the oxygen of the plasma has become exhausted, and the pressure conditions become so reduced as to permit the giving up of the gas. This occurs in the capillaries.

Until these are reached the pressure of the oxygen in the plasma restrains the hæmoglobin from giving its oxygen. Here, in the liquid, moistening the fibrillæ of muscle that surround the terminal capillaries, where the transfer of oxygen in reality begins, the tension of the oxygen is almost nil, since the tissue elements are steadily taking up the gas from the lymph surrounding them, and the plasma continues to give up oxygen through the wall of the capillaries until the tension falls too low for it to longer do so; then it is that a portion of the oxygen of the hæmoglobin is freed and is dissolved in the plasma to take the place of that oxygen which it has given up and which in turn has passed out into the lymph on the other side of the capillary wall. This interchange continues until the pressure of the oxygen in the lymph equals that of the oxygen in the plasma, by which time the venous system of capillaries, the return circulation, has been reached. One of the strong indications of the action of the galvanic current on the blood is the probability that it facilitates this transfer ot oxygen to the tissues in active form, both chemically and physically. By rearranging the atoms of some of the molecules of oxygen in the plasma the value of the oxygen held in solution is reduced, and the oxygen of the hæmoglobin is at once transferred to the plasma instead of being doled out, as it were, to suit the constantly varying pressure changes that go on until the blood completes its circulatory round. This being the case, the transforming process is undoubtedly ushered into existence through the polarizing property of the animal electricity, of which I shall speak further on. How far chemical change is wrought upon the diffusible solids of the blood by the generation and presence of such an increased amount of ozone I am unable to make precise answer, and I leave it to the thoughtful investigation of those observers who may take interest in my work, and who are blessed with a more acute knowledge of physiological chemistry and a more completely equipped laboratory than it is my good fortune to possess. To my mind there seems little question of the occurrence of just such a change as I have described. My analyses thus far have remained within the sphere of quality; it remains for others to continue in the more exact line of quantity. Reasoning by analogy, the galvanic current acts precisely upon the oxygen in solution in the plasma as it did in the jar filled with O_2 through which Schönbein passed the current and observed its transformation into ozone. There is but one possible action of the ozone on the blood. It must hurry on the transfer of the oxygen to the tissues, call into existence the oxidation of those constructive elements which the tissues require for their revivification. Doubtless, these changes are more extensive than I have been able to determine exactly.

OTHER FACTORS TO BE CONSIDERED.

The experiments of Guy-Lassac should teach us a valuable physiological lesson. From his laboratory we feel that we can carry them over to that store-house of chemical energy, the human body; and observe changes corresponding to those he observed in his jars filled with gases possessed of great affinity for one another, which, however, remained quiescent and inactive until he prodded them with the stimulus of a galvanic current, which, as it passed through the gases, spurred into action, or awakened, as it were, their slumbering affinities, polarized their molecules and ushered into life the new something, the results of the three great potent factors—polarization, chemical action and affinity. I have tried to im-

press upon you the importance of these three conditions, for upon them depend all the chemico-physiological changes—in short, all changes that go on within the human body.

I have observed them time and again in the course of my experimenting, and have subjected them singly and together to the most rigorous test of verification. My observations point to the one conclusion, and that is, that chemical action, the feeder of life, cannot go on unless there is present an electrical force, an energy that can polarize the molecules of the combining elements and prepare them for combining action. Affinity, catalytic force, the phenomena of contact in themselves are impotent without that ever preceding factor—molecular polarization. It is the metabolism, the anabolism, the catabolism, the all, and more were it possible, of that cardinal nourisher of tissues, that feeder of life, the blood. Animal electricity, and the important part it plays, I will reserve for a later chapter, and pass over to general details of my experiments upon the blood of the living animal in its normal state and under the stimulus of the galvanic current.

PRELIMINARY TESTS.

For a period of seventy-two hours before entering upon the examinations we hung in various portions of my laboratory slips of specially prepared paper, saturated with a solution of the iodide of starch, and others moistened with tinct. guiac. These, we all know, are acknowledged tests for ozone. We kept the papers under careful observation, examining them in strong light at intervals of an hour, and as there was no evidence of a reaction at the end of the allotted time, we were justified in concluding that the atmosphere of the laboratory was free from ozone and the other gases which act upon starch and guaiac. Next we directed our attention to nitrous compounds in the air, for the reason that they—if they exist in the slightest appreciable quantity—give us a reaction very much like that of ozone, and their presence must be excluded in order to give any sensitive test for ozone practical chemical value.

The test we applied for nitrous compounds is an extremely useful one, unusually sensitive, and we give its chemistry for the benefit of those who may desire to repeat our experiments. It is named Gries's Test, after its discoverer. He observed that in sulphanilic acid and naphthylamine we have a reagent which acts on nitrous acid, but not on H_2O_2 or O_3. This discovery Gries made while engaged in studying the action of diazo-benezene—sulphonic acid on naphthylamine.

He obtained his diazo-benzene — sulphonic acid—by treating sulphanilic acid with nitrous acid, and calls attention to the extreme delicacy of the reaction, minute traces of nitrous acid sufficing to produce a dark red color in the presence of dilute sulphuric acid. The colored substance formed is an amido-azo derivative of the formula:

* $C_6H_4(So_3H)N = NC_{10}H_6NH_2$.
Called azo-amido-naphthalene-benzene sulphonic acid.

* Ber. d. Chem. Gessell., 15, 426; 15, 2191.

Prof. Slosvay,* of the Polytechnic school at Buda-Pesth, increases the sensitiveness of the reaction by substituting acetic for sulphuric acid, and he can detect with it nitrous acid in aqueous solution in a dilution of one part nitrous acid to one thousand million parts of water.

The formula of the test is:

$$C_6H_4NH_2(So_3H) + C_{10}H_7NH_2 + HNO_2 =$$
Sulphanilic acid + Naphthylamine
$$C_6H_4(So_3H)N = HNC_{10}H_6NH_2.$$

We availed ourselves of Slosvay's modification of Gries's formula. A tank with air from the laboratory. The air was sent through an air meter which registered one liter per minute, and from this into a test tube containing distilled water, through which it was allowed to bubble for ten minutes and then tested. There was no immediate reaction, and only after half an hour's standing did we observe a tinge of color; so faint, as to be almost imperceptible in ordinary light. In order to see it we were obliged to back the test with pure white filter-paper and hold it to the sunlight.

In view of the delicacy of Slosvay's reaction it was fair to assume that the quantity of nitrous acid in the air was so infinitesimally small that for practical purposes it could have no effect in interfering with the subsequent tests for ozone.

Ten liters of oxygen were treated in the sam manner. The oxygen was first subjected to two washings in distilled water without giving any reaction to the nitrous acid test.

The remaining forty gallons, which were afterwards liberated in the laboratory, were washed in caustic soda, and dried with sulphuric acid (C P) and bubbled through distilled water. There was no reaction with Gries's test, thus showing that the gas was absolutely pure and free from admixture with nitrous and other gases.

This concluded the preliminary testing. The object of careful analyzing of the laboratory, as you may already divine, was to devise means of testing for ozone in the open, and to avoid the less satisfactory method used by Schmitt, who treated his ozone in a balloon, from which the oxygen had been removed, as nearly as possible to do so, by means of carbon dioxide, or handling it in a similar glass receiver, from which all air had been exhausted, which was the manner in which Kühne conducted his experiments.

For several days work was suspended and resumed again Monday, August 12, 1892. On that morning we were treated to a genuine surprise that caused me to ponder for a while. Dr. J. C. Dittrich, who, perhaps, ranks first among the authorities on ozone in this country, and who kindly assisted me in the chemical portion of my work, prepared several specially sensitive test papers, which, on being moistened with distilled water, at once gave a reaction. The air of the laboratory was evidently charged with ozone, and we were at a loss to account for its presence. Speculation was soon set at rest when we recalled the violent thunderstorms of the Sunday and Saturday before. The ozone was the result of the in-

* Bulletine de la Société Clinique de Paris, September and November, 1889.

tense static discharges of those days, and the amount that had been generated by the great Pluvius certainly was enormous and beyond measure. For that day and the three succeeding ones, work had to be deferred, with all the preliminary testing for naught.

On the following Thursday, on resuming operation, no ozone or nitrous acid was detected in the laboratory. The preliminary test on being repeated gave results as already stated.

TESTING FOR OZONE IN THE BLOOD.

A rabbit that had been well fed for a week was the subject of investigation—it was a big animal, in fine spirit, and weighed four pounds three ounces. It was brought into the laboratory, and both carotids cut through and the blood collected in a sterilized glass receiver. In all, sixty grammes were extracted and defibrinated with sterilized glass rods. The operation requires nine minutes, and the fresh serum was subjected to test.

The serum was diluted with distilled water in the proportion of one part of serum to four of water.

With the iodide of starch an immediate reaction was observed in the open air, and the same reaction, faint at first, but gradually deepening in blue color, showed, under a bell glass.

Testing with guaiac tincture of the official strength, which we reduce by adding an equal volume of absolute alcohol, responded more quickly to reaction of ozone. The blue ring around each drop of blood was marked and sharply defined. The same reaction continued when the test was made under the bell glass, and gradually approached its maximum of intensity at the end of half an hour, when, to all appearances, the ozone became completely exhausted. The fibrinous clot, with the entrapped corpuscles, was likewise tested, and gave a far more distinct and marked reaction than the serum.

It was evident at a glance that the corpuscles contained a far larger amount of ozone than the plasma.

The remainder of the defibrinated blood, about forty grammes, which had been kept in a well-covered jar, was next subjected to electrification for five minutes. A galvanic current of ten volts and fifteen mil-amperes was sent through the fluid, the electrodes used being strips of platinum an inch long and five-eighths of an inch wide. In six seconds the meter dropped to eight mil-amperes, and the registration which was recorded at the end of each minute read as follows:

1 minute	7.	mil-amperes	
2 "	5.	"	"
3 "	4.5	"	"
4 "	3.75	"	"
5 "	3 +	"	"

Testing with iodide of starch and guaiac tincture showed the unmistakable increase of ozone. The rings around the drops of blood were of deeply blue hue, and the reaction continued on with much greater rapidity than was the case with the unelectrified blood.

As quantitative test was out of question, Dr. Dittrich made an approximation of the intensity of the action by comparing the rapidly deepening ring of blue with the chromatic scale given by Dr. Fox, in his exhaustive work on ozone. They carefully noted the change of color as it progressed, availing themselves of the most advantageous light facilities, and agreed upon the estimate that the amount of ozone adequate to such reaction must be in the neighborhood of, at the lowest calculation, at least two and one-half times greater than the amount indicated by the reaction in the case of the unelectrified blood. The clot deposited around the electrode at the positive pole gave a more animated reaction, the ring of blue almost approaching indigo, showing a most marked increase over the former reaction. Standing by itself this test of the blood outside of the body signifies but little, for it is the blood that circulates through the living organism unimpeded with which we have to deal and in which physiological conditions alone can be of any value in the study of the action of the galvanic current. Yet withal, when taken in connection with the tests that were afterward made, the observations form an important link in the chain of evidence that it is animal electricity which is the polarizer of the atoms of neutral oxygen both in the plasma and in the hæmoglobin. Under normal conditions the transformation of O_2 into O_3 is slow and gradual and the polarization of the neutral oxygen is proportionate to the polarizing force of the existing animal electricity. Undoubtedly Schmitt, Houzeau, Meisner, Kühne and others were right in their assumption; but it seems to me that they did not probe deep enough for a solution of the possible origin of this transformation of neutral oxygen into ozone within the human economy. It was due to the polarization of the atoms of the neutral oxygen, but how did it come about? I have assumed in starting out upon the experiments, the results of which form the title of the paper I have the honor of presenting to your consideration, together with the more exact details which I hope to announce at some future day, step by step, with the view of adding some light to the question, that this generation of ozone admits of a satisfactory scientific explanation. During the years that I have devoted to the study of ozone within the body, I have always regarded it with awe and veneration. I have woven theory after theory only to find that the strands broke precisely within the limits of the reasoning of the great observers to whom we owe all. We know of ozone, and that to us as physiologists is indeed little.

That ozone can be found in the blood nourished by gases that contain no ozone is a fact beyond dispute, yet the problem of its generation is a problem that at first sight offers no easy solution. In looking over the field of possible sources to explain this source of the formation of ozone, it fastened itself upon me that one great factor that might afford an explanation had been overlooked. It was animal electricity, and I have tried to explain its function. There seems to be but one deduction to draw from the most careful observation, and that is, that it is animal electricity upon which not only the polarization of the atoms of oxygen, but all molecular polarization and chemical action in the body depends. I believe that

the transformation of oxygen into ozone within the body is brought about by this very animal electricity, which polarizes the neutral oxygen to such a degree that a portion of the atoms rearrange themselves, attract and repel each other under this polarizing force, until we get the ozone, which we detect upon analysis. The function of the ozone is apparent to all of us. It gives the oxygen increased power to form combination with the tissue elements and promotes oxidation.

This polarization of the oxygen seems to take place just as the gas touches the tissues where the conditions are favorable to such an action and where it closes circuit with electricity in the human frame. The unaffected molecules of oxygen under the vigorous spurring of this ozone become vitalized, as it were, and at once begin the search for their affinities in the tissues and enter into combination with them.

The proof of this reasoning seems to me to be apparent, from the fact that I have been able to appreciably increase the amount of ozone in the blood by passing very weak currents of galvanic electricity through the body, and it is the underlying theory upon which I based my experiments and which I hope to make clear to you.

Before dismissing this portion of my paper and passing over to an account of our experiments upon the blood of the living animal electrified by a current of galvanic electricity, permit me to advance another theory, which I regard as justifiable from our findings, and I do so only in the hope that it will give rise to careful discussion, for it is at variance with some of our pet physiological theories; it is:

That oxygen in the blood stimulated by the polarizing power of animal electricity, and more so under the stimulus of the galvanic current, enters into combination with the hæmoglobin of the corpuscles with a partial transformation into ozone, and that in losing its combining bonds it undergoes a further partial transformation into ozone.

EXPERIMENTS IN THE ELECTRIFIED ANIMAL.

This brings me to a record of the experiment upon the living animal with the galvanic current.

The animal chosen was also a rabbit, which was prepared by being fed on fresh vegetables for several days. He was in prime condition and was allowed to run at large until he was required for use. The batteries were carefully tested, cell by cell, and the current measured with both volt and mil-ampere meter. A coil of a resistance of 400 ohms which had been placed in the circuit was removed after the measurement had been taken and we decided upon a current of a strength not to exceed forty mil-amperes. Two cuts about half an inch apart were made into the skin of the animal, and into these and for a distance into the body of the muscle, the platinum electrodes used in the previous experiments were inserted and a current of twenty volts turned on. The meter showed forty-four mil-amperes. This dropped quickly down to forty-one mil-amperes. The reading of the meter during the five minutes that the current flowed was as follows:

1 minute	40.5	mil-amperes
2 "	38.	" "
3 "	37.+	" "
4 "	35.8	" "
5 "	35.	" "

At the end of five minutes both carotids were cut through and thirty-five grammes of blood were drawn into a sterilized glass vessel and defibrinated as before with sterilized glass rods.

It was observed that the blood was of a brighter scarlet hue than that which flowed from the arteries of the unelectrified animal. Exposure to the air, while the process of defibrination was going on, did not affect the bright tint. Defibrination, too, was not so easily effected and the fibrin slowly gathered around the rods. Seven minutes after the blood was shed a gramme of the fresh serum was diluted with two grammes of distilled water and subjected to test with both guaiac and starch iodide. The reaction in both instances was almost immediate, a trifle more active with the guaiac. The ring of blue around the drops of blood was more pronounced and much deeper and kept on deepening both in the open air and under the bell jar as had been done with the blood from the first animal killed. At the end of twenty minutes the test papers, those saturated with guaiac and starch iodide, three of each variety being exposed to the air and a similar number under bell jars, indicated the termination of the action, and they were taken out and carefully compared with the test records of the first experiment which had been preserved in air-tight tubes. The blue ring was, even upon the most superficial examination, found to be several shades deeper and the ring of reaction was more spreading, in some of the drops, almost half an inch wide, and distinctly visible to the line of demarcation of chemical action. The fibrin also gave like results. A far larger amount of iodine had been set free in these tests than in the case of the first analysis. The quantity of ozone to give such reaction according to a most conservative calculation of Dr. Dittrich was estimated to be certainly three times greater than that which gave the reaction from the normal blood.

The increase in the amount of ozone was astonishing and far beyond our expectations. We had anticipated some difficulty in determining the increase if it proved to be trifling, but here we were met by a quantity far in excess of what we had hoped to find in the event of the most successful terminations of our searching. The action of the current on the oxygen in both plasma and corpuscle enmeshed fibrin was evident in the transformation of a portion of it into the more vital form of O_x. Microscopical examination of the red blood cells showed a most marked increase in their size. A more detailed account will follow in the next paper. That the current had accomplished this transformation, astonishing as it proved to be, was readily to be explained, but not so with the ozone in the normal blood. There was but one explanation for this, the polarizing action of the animal electricity.

MY PLAIN VIEWS REGARDING ANIMAL ELECTRICITY.

The existence of animal electricity is acknowledged. The origin and action, however, are the

points upon which electro-physiologists are not quite clear. Those who have given the subject some consideration dismiss it by establishing its connection between chemical action, heat and animal electricity. They rest content in discussing the three conditions without attaching the slightest importance to the precedence of one or the other of them. Chemical action, we are told, evolves heat, and tissue metamorphosis and oxidation go on. They are satisfied with the evidences of the existence of animal electricity, that it can be measured, and that it is one of the great trinity upon which life rests.

It is in view of this condition of the investigations upon this question that I approach it with much trepidation and fear lest I be charged with being too radical in my deductions. I can almost see doubt written upon the faces of many of this distinguished gathering, and I can almost hear you say: "Well, are you going to settle the question?" Settle the question or not, still I have the boldness to advance a probable solution of the problem, and I ask you to follow closely my experimentation and the deductions I have drawn and based my opinion upon.

I will not take up your time by rehearsing the observations of the various electro-physiologists who have enlightened us in animal electricity. To do so I would in fairness to all be obliged to begin with Matteucchi and so on up to the present day, without omitting a single one, for each of the observers have welded a link in the chain of result, and to leave out a link would mean to destroy the integrity of the chain.

Let us for a moment consider the observation of Dutrochet. He observed that if the positive pole of a battery be dipped into pure water and the negative into gum water, endosmosis continued more energetically. Onimus later on discovered that with a reversal of this order of pole, endosmosis, too, was reversed. It is but fair reasoning, again by analogy, to assume that the electricity in the body exercises precisely the same physio-chemical action. I have already called your attention to the observation of Gay-Lassac. Whenever the so-called catalytic action takes place in the living tissue, is it not equally fair to assume that animal electricity is the prime mover?

Can there be any question that electricity—galvanic—with its electrolytic powers, the ready manner with which it decomposes the salts, coagulates albumen in the vessels of our laboratories, has a like action on the tissues and fluids of the living organism? It is apparent, I hold, that animal electricity not only influences the whole system of nutritive operations, but also directs them.

Time and again I have electrified animals and human beings, and observed that under conditions of electrification they threw off a greater amount of urea and carbonic acid than under ordinary conditions. Urea and carbonic acid! And what is the significance of such an increase in the waste products? Nothing more than, and nothing short of, increased chemial action, increased tissue metamorphosis, the increased evolution of heat; but the electricity—the animal electricity—that remains unaccounted for.

Dutrochet and Onimus showed us the action of the anode and the cathode in endosmosis, and left us to apply it to the physiology of nutrition. Now let us do so and account for the function of animal electricity if we can. As I have already intimated, the order of action is animal electricity first, and why, because we must have polarity before we can have chemical action and its natural result, heat. Subject a solution of the iodide of potassium to electrification and you free the iodine. Inject a quantity of this fluid into the blood of a living animal and then subject the animal to electrification, and in a very few minutes starch papers, held in contact with the parts surrounding the positive pole, will indicate that the iodine is set free by the action of that pole. Note the transfer of the chemical action from laboratory to the living body. Are the two not singularly alike?

Unfortunately I have not been able to isolate the poles of animal electricity, and hence it is that my tests on animals similarly injected, yet not electrified, give me such indistinct reactions, that I hesitate to announce them as positive results.

Yet all point to the one conclusion, and the one deduction, that animal electricity comes first; that is the prime factor in all the processes of change of chemical action, or otherwise, within the living body.

That without its stimulus of polarization, no chemical action can be called into life, and consequently none can go on; and tissue metamorphosis, which is life itself, must cease.

Before concluding, allow me a word or two upon ozone, its physiological and therapeutical value, which are not under discussion, and are hardly properly to be considered in the limits of this paper.

We have dealt with ozone generated from the oxygen within the body, and it is in this form that it plays so important a role in the oxidation of the tissue. There seems to be some doubt as to the possibility of introducing ozone in its pristine integrity into the system. It may be a feat within the range of possibility, judging from the voluminous literature upon the subject that has been published only within the past year or more, yet from our experience in handling it, I prefer to regard it as an agent that performs its most useful work upon the field where it is ushered into existence, where nature calls it into life because it is needed to perform important duties.

CONCLUSIONS.

My theory is that ozone is generated in the blood, but I am aware that it cannot exist there for any length of time in a free state, but that the molecules as formed (O_3) is readily transformed into H_2O_2, which would coagulate the albuminous matters and partly with the oxy-hæmoglobin forming probably a compound which I will provisionally call *peroxy-hæmoglobin*. I am well aware of the fact that some will say such a compound could not exist, as any such extra superoxidation will destroy this oxy-hæmoglobin, which has already so much oxygen in its composition. In inorganic chemistry the peroxides are well-known; for instance, peroxide

of barium, which is now so extensively used in the manufacture of peroxide of hydrogen. And in the organic field we know of camphoric peroxide ($C_{10}H_{16}O_4$), a product which yields peroxide of hydrogen when brought into contact with water and becomes converted into soluble camphor ($C_{10}H_{16}O_3$) this product (camphoric peroxide) was discovered by Kingzett.

From tests already made we think it probable that the electric current as it passes through the blood decomposes the chlorides (which are normal constituents), and forms hypochlorites or some highly oxidized compounds of chlorine. We have made many tests and they would at least indicate the possibility that certain chemists who have stated that they obtained the reaction of ozone in the blood (which we have frequently found ourselves) have not been aware of the fact that hypochlorites produce a similar reaction when mixed with blood.

CELLULAR THERAPEUTICS—FROM A CLINICAL STANDPOINT.

By John Aulde, M.D., Philadelphia.

THAT cellular life persists long after somatic death is a fact well known to both physicians and experimental physiologists, notable examples of this being found in some of the lower animals, especially in snakes and frogs. This will serve to emphasize the central idea to be elaborated in the following remarks upon the subject of cellular therapeutics as studied from the clinical point of view. The name itself is comparatively new, having been first brought to the attention of the profession about seven years ago, but the practice which it implies extends to the remotest period in medical history. To the celebrated Virchow we are indebted for the impetus given to this line of study, by the publication of his classical work, "Cellular Pathology," about forty years ago. Now, while the object of this exhaustive work was to determine and classify the various steps in retrograde metamorphosis, the idea embraced in cellular therapeutics is to study and arrange systematically, as far as possible, our clinical and scientific knowledge of reconstructive metamorphosis. This knowledge, of course, must be determined by and through clinical observation, physiological and chemical research, and in addition thereto there is the psychological element to be considered. It will be apparent, therefore, that the clinical aspect of this subject can do no more than deal with the most elementary problems which present themselves for discussion; hence, the importance of the questions, if we desire to establish modern medicine upon a strictly scientific basis.

As a definition of the term, I have ventured the following: "The method in therapeutics of exhibiting properly selected medicaments with a view to restoration of cell-function. It aims to apply scientifically those remedies that experience has shown to possess special curative properties in the restoration of disordered functions." (Gould: Dictionary of Medicine, Philadelphia, 1894.) It remains then to show, by means of scientific and theoretical data, coupled with clinical illustration, what measure of value this practice is likely to attain in our efforts to further the interests of scientific medicine.

The basis of this working hypothesis rests upon the well recognized fact that the various organs of the body are composed of cells, and that through the normal performance of the vital activities of the cells the integrity of the organ is maintained; that while the functional activity of an organ as a whole may produce a certain product (secretion or excretion, or both, as in the case of the liver), the output is, nevertheless, the product of cells, each having its own special function, independent so far as its functionating, of either the organ itself, or of the body as a whole, of which the organ forms a part; and that groups of homologous cells are influenced in their activities by the same cause, the effect in turn being conveyed to other cells or groups of cells The latter proposition might be illustrated by citing the case of vomiting from fright, showing that the effect of fright upon the cells in the sight-centers of the brain modifies the cells centering in the area from which springs the pneumogastric nerve. In truth, I have had the good fortune to meet patients who had been taught that their dyspepsia was due entirely to some occult derangement of the pneumogastric nerve, and there is possibly not less rhyme than reason in this assumption, in view of the refinements of modern civilization, which appeal to the eye rather than to the stomach.

As a further illustration of the interdependence of groups of cells might be mentioned the marked effect of pilocarpine in certain conditions when administered in substantial doses (probably through the establishment of an artificial leucocytosis), but the most convincing evidence is to be found in the effect of food, especially when a person is moderately hungry. Thus, the stomach, the small intestine, the liver, together with the various glandular appendages begin at once their special work, when the influence of their activities is felt throughout the entire system. But primary and secondary assimilation involves physiological and chemical changes which are again liable to be affected by mental activities, so that we are unavoidably compelled to take account of the psychological element.

When we consider the multiplicity and delicacy of the cellular structures of the human body, the interdependencies and complicated relationships of the different organs, together with the profound changes which may result from psychological deflection, the temerity of the American public in practising self-medication must be regarded as the most astonishing spectacle of the nineteenth century. This observation, although in the nature of a digression, is fully warranted in this connection, because I hope to be able to show how remedial agents may be used to secure their physiological or therapeutic effects without injury, at the same time pointing out the deleterious action of remedies administered hap-hazard.

In casting about for an acceptable and perspicuous method for the elucidation and elaboration of

my thesis, the idea suggested itself to present first, therapeutic effects by contrast, selecting for this purpose a limited number of remedies, the physiological actions of which are well known. Next, I will take cognizance of representative remedies, the therapeutic effects of which are shown by pathological changes in the cells affected, passing thence to the discussion of remedies whose therapeutic effects are referred to as "alterative." The paper will be concluded with a discussion of some of the more peculiar manifestations of remedies administered with a view to produce physiological effects in certain diseases, referring incidentally to bacterial invasion, and estimating the probable results to be secured eventually by the administration of small doses.

Chloral hydrate, owing to rapid action in obtunding the brain centers, must be regarded as the most effective remedy that can be employed to obtund the sensory nerves; next in order stands the bromides. When one or both are administered in sufficient quantity to produce what are termed physiological effects, the brain-cells, which control or regulate sensation, are unable to functionate; although this artificially produced analgesia does not immediately affect the vegetative functions, certain metabolic changes taking place with persistent regularity. Thus, the functional activity of the sweat-glands and the secreting cells of the kidneys proceed apace; it is doubtful, however, if the normal secretions of the alimentary tract persist in their activities to the same degree, since we know that both remedies show decided tendency to affect nutrition by interfering with the digestive apparatus. Their redeeming feature is, that they allay irritation from external sources and thus promote sleep, which is of decided benefit to the patient. But, while this advantage is gained, the benefits are often more apparent than real, since functional derangements ensue which affect, first, the cells which have been thus obtunded, and second, the cells of different organs which are in close relationship with them. In some patients, for example, several hours are required after the artificially produced sleep has passed before normal conditions are regained, and in the case of the bromides, we know that the arrest of the secretions is marked by many objectionable symptoms. Indeed, the effect of bromide medication is to reduce the strength of the patient, lessen the resistance of the cells, and of necessity prolong the period of disease; hence, they should be used with discretion and extreme caution.

Nux vomica, and strychnine, its alkaloid, naturally suggest themselves as remedies, producing precisely the opposite effects of chloral and the bromides, and the question comes up whether it would not be policy to administer them conjointly. Strychnine stimulates, that is, increases, the functional activities of the brain cells, at the same time augmenting tissue-change or metabolism through its influence upon muscular structures; but does it promote tissue-change and the elimination of waste-product through this function alone? If it be accepted as true that the psychological function is paramount, then the influence of strychnine must be considered as first affecting the brain-cells. That it affects the sight-centers, the sound-centers and the sensory-centers, we know to a certainty, but this admission only confirms our conception of its general action, since its distribution extends to all the cells throughout the body. It may, therefore, be administered conjointly with the bromides and with chloral in the expectation that it will counteract their pathological effects, but rare judgment and a nice discrimination are requisite to secure a properly balanced therapeutic effect.

Before leaving these two groups of remedies it will be profitable to contrast their effects upon cell-function and cell-life. The analgesics paralyze by obtunding sensation direct, and to this special property is due their therapeutic value. On the other hand, stimulants of the cerebro-spinal system produce their therapeutic effects through their irritant action upon the cells; carried to an extreme limit, paralysis follows just as certainly as in the case of analgesics, although, owing to the physiological properties of the two, as has been pointed out, the remote effects differ materially. This question I shall be compelled to leave the reader to develop for himself, since the scope of the inquiry embraces an extended consideration of various scientific factors in addition to the clinical records.

Digitalis and trinitrin are opposites which might be profitably considered in this connection, but their powers are limited almost exclusively to the nervous mechanism upon which they act, or through the medium of which they produce their special physiological effects. The former, when introduced into the blood-current, causes contraction of the Malphigian tufts and, for a time at least, increases the flow of urine. It would be indicated as a remedy for the purpose of correcting a relaxed condition of the renal structures. Trinitrin would naturally suggest itself for the opposite effect, since it causes dilatation of the arterial twigs, not only in the renal structures, but throughout the body. Both, however, produce physiological and therapeutic effects mainly through inhibition, that is, through the sympathetic nervous system, but digitalis possesses properties peculiarly its own. Thus, its activity is due, first, to its poisonous or irritant effect upon the cardiac ganglia; and second, to its irritant effect upon the cells at the points of elimination, both of which views are fully corroborated by clinical and post-mortem observation. Trinitrin, being a volatile substance and its effect more evanescent, it is doubtful if its range of activity extends beyond the cardiac ganglia. They are both poisons to the nerve-cells, arresting or suspending their power to control the muscle-cells in the areas through which elimination is effected; hence, the importance of estimating the effect of remedies upon cell-function, in order to avoid producing untoward physiological, chemical and psychological derangements.

Morphine and alcohol undoubtedly produce changes in the cellular structures, resulting not infrequently in the most marvelous psychological manifestations, and yet their popularity shows no signs of diminishing, if we estimate that in-

sanity, drunkenness and lawlessness are the remote effects. Looking at the question from the clinical side, studying the effects of these medicaments upon certain groups of cells, together with the influence resulting to other groups of cells from derangement of function, we cannot fail to be impressed with the profound responsibilities of the conscientious physician in his selection of remedies for the arrest and cure of disease. It requires no stretch of the imagination to realize that several generations will be required before it would be possible to eliminate from our social, political and mercantile environment the destructive effects of medication by morphine and alcohol, and as the scientific horizon is extended, the probabilities are that other remedies will be found to produce equally demoralizing results.

Alteratives, so-called, afford an especially attractive field for the study of the clinician, because of the perceptible effects of exhibition coupled with the occult manner by which these effects are produced. Potassium iodide and rhus toxicodendron may be taken as illustrative examples of this class of medicaments, and to the writer they stand as shining examples of the great truths underlying the doctrine of cellular therapeutics. The first of these, while not an irritant poison, is foreign to the human organism; hence the attempt to secure its elimination. As is well known, this takes place through the usual channels, more especially through the mucous membranes, because there does it find least resistance. Like all of the potassium salts, it is a protoplasmic poison at the points of elimination, but not in the same degree as the chlorate. We have notable examples of this in the case of the latter remedy, destroying the functional activity of the kidney cells, and in the case of the first mentioned, in the sudden attacks of edema of the glottis. This illustration will serve to indicate the trend of the two remedies as to elimination, and at the same time, will indicate how they may be employed, in comparatively small doses, to enact the role of mild stimulants to excretion instead of arresting the functions of the cells concerned in this operation. The poisonous or irritant action being reduced to a minimum they act as gentle stimulants, thus promoting reconstructive metamorphosis and, as Ringer puts it, "avoiding the bad effects."

Substantially the same process of reasoning may be applied to rhus toxicodendron in respect to its action upon the skin, through which active elimination is effected; but rhus does something more while circulating in the body-fluids, through its irritant action upon the fibrous structures, stimulating them to throw off waste products, and it is, therefore, a recognized remedy for the relief of such maladies as lumbago, fugitive rheumatic pains and sciatica. In small doses it restores the functional activity of the cells, and this is the only reason for this or any other remedy being classed as "alterative."

I am reminded here to add that both potassium iodide and rhus have been highly recommended as cardiac stimulants, increasing the muscular contractions, but this effect, in my opinion, is due principally to their influence upon cellular activity, by which elimination is augmented and resistance lessened. And there is still another phase in which these remedies may be considered, namely, their influence upon the nerve cells, in other words, the psychologial element; but I must leave that to the tender mercies of the experimental physiologist.

We have now reached a point when it will be profitable to consider if we have any remedies which, through their peculiar power over cells, will enable them to eliminate bacteria and their products. The different classes of remedies mentioned so far merely modify the functional activity of the cells, but in the treatment of diseases associated with or dependent upon bacterial invasion, none of them could be depended upon to affect the micro-organisms, either direct or indirect, that is, through the stimulation of the cell. We would naturally expect to derive some benefit from alteratives, because they assist the organism in carrying off waste products, but they could have no direct influence upon the growth and multiplication of micro-organisms. It is folly, therefore, to insist upon their administration either for their medicinal or physiological effect. The only recognized remedies which are acknowledged to possess anti-bacterial properties are such as cannot safely be given in sufficient quantity to produce any apparent effect, except, perhaps, the administration of quinine in malaria. But persons recover from malaria without quinine, by change of climate, and possibly, when indicated, the administration of hepatic stimulants, thus showing that nature is ever on the alert to eliminate poisonous products, and this evident conservatism must be credited to cellular activity. But Nature has something more to use in her warfare against micro-organisms and their products than that which we would infer from this observation, which refers simply to the mechanical operation. She has the product of the polynuclear white blood-corpuscles, the so-called "defensive proteids," of which nuclein is the chief. It is this normal antiseptic of the organism which prevents the decomposition of the fluids and tissues, which promotes recovery in cases of illness, which prevents septic infection in the case of abscesses, carbuncles and surgical wounds, and maintains the resistance of the body-cells against invasion by pathogenic and other micro-organisms. In the case of "digestive leucocytosis," we all have more or less lively recollections of the feeling of well-being which follows the ingestion of a hearty meal. It is this product which stays the malarial infection, by rendering the fluids inimical to the welfare of spores, and when the system is not prepared to appropriate the necessary pabulum for the leucocytic function, the substance itself can be supplied artificially. Acting in some respects like a ferment, increasing in a most remarkable manner the functional activity of the white blood-corpuscles, nuclein from animal sources must be regarded as one of the most important additions to our armamentarium. In malaria, for example, drop doses at intervals of two hours have been reported as conquering the disease after the abso-

lute failure of quinine, even when administered in doses as large as sixty grains daily.

The probabilities are that other remedies will be found to produce good results through the stimulation of this physiological function, notably arsenic and other irritant poisons, so that their therapeutic virtues will depend upon their two-fold action, namely, the mechanical action, or cellular activity incident to their elimination, and their physiological action, due to the stimulation of the leucocytic function. I am convinced beyond question that copper arsenite possesses this two-fold property, in addition to its influence upon the nervous mechanism, owing to its great value in the treatment of various acute affections of the small intestine. In typhoid fever, for example, the specific character of the malady can be arrested within from forty-eight to seventy-two hours, by the conjoint employment of copper arsenite and nuclein from animal sources, the result being due, in my opinion, to the influence of the remedies in restoring the physiological activity of cell-function, whereby we secure and maintain the normal antiseptic character of the secretions (excretions).

Tubercular infection is distinctly benefited by precisely the same line of treatment—a tablet of copper arsenite containing a hundredth of a grain and one containing one minim of animal nuclein, together, at intervals of two to four hours. Within a few days a notable change takes place; the bowels, which have been obstinately constipated, are moved two, four or six times daily, the character of the stools being decidedly improved, and with this action, the cough subsides, the expectoration being lessened or disappearing entirely, the temperature falls, the appetite returns, digestion is improved, night-sweats disappear, while the sleep is sound and refreshing. Such are some of the marked effects of medication in ordinary cases of chronic tubercular infection; in acute cases, in addition to the treatment here outlined, medication must be directed to the urgent conditions present.

I would like to add a word concerning the advantages of physiological medication, based upon the doctrine of cellular therapeutics, in the treatment of diphtheria, comparing and contrasting the theories involved, and estimating the probabilities as to ultimate results in our efforts to control this serious malady, but that would require a separate article, and must be deferred for the present. I cannot close the present paper, however, without brief reference to the manifest benefits of physiological therapeutics in the treatment of such disorders as scarlet fever, where the *materies morbi* is practically an unknown factor. The production of an artificial leucocytosis by means of nuclein medication has the effect of changing the entire morbid complexus of this disease, rendering it as mild and apparently as harmless as an attack of measles, and thus the evidence is conclusive and overwhelming that cell-medication is destined to become an important factor in modern medicine.

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Affectation is a deformity.—*Blair.*

THE GOAT — ITS VALUE IN MODERN SERUM-THERAPY AND ITS USE IN GENERAL IN THE TREATMENT OF DISEASE.

By W. Thornton Parker, M.D.

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THE Goat, a caprine, horned quadruped, is a member of the order Ruminantia or cud chewing animals. The Paseng is probably the original of the common Caprahircus—usually having the chin bearded, and a strong hircine odor in the male, which is especially noticeable during the rutting season. There are many varieties—as the Angora of Asia Minor, the Cashmere of Thibet, the Syrian, the Smyrna, the goats of Wales, Switzerland, etc. The Rocky Mountain goat is an antelope. The goat is so closely allied to the sheep that it is not easy to define the distinction, although the common domestic goats are widely different in appearance. One of the most marked of the distinguishing features is that the horns of goats are directed upwards, backwards and outwards, while those of sheep are more or less twisted; another is the beard on the chin of male and female goats which is wanting in the sheep. Perhaps a more constant characteristic is a straight line of face in goats as compared to the arched line in sheep. A curious but constant mark of distinction is the difference in temper and manners. Goats being in a high degree inquisitive, and the very term capricious denotes their temperament.

Goats are found wild only in mountainous countries. They all exhibit an aptitude for rocky places and are extremely sure-footed on rocks and pinnacles. They display great strength and agility in leaping. They also prefer as food the leaves and small branches and shrubs and the strongly aromatic herbs which abound in mountainous situations to the herbage of the richest pastures. The common or domestic goat—C. Hircus—has existed as a domestic animal from the earliest ages. It is frequently mentioned in the books of Moses and formed a large portion of the flocks of the Patriarchs. It adapts itself to almost all climates and thrives under the care of man in the hottest parts of India and Africa, and the protection of only a shed in the severity of winter in the northern districts of Europe and America. In nothing does variation seem more readily to result than from climate, in the quantity and quality of the hair goats. They can be kept with advantage in situations too rocky or where the herbage is too scanty for cattle or sheep.

On some of the mountains of Wales and Scotland the goat is almost completely wild as if it were indigenous, and even to get within shot of it is difficult. It is capable of the most perfect domestication and becomes extremely attached and familiar. I have some very handsome and hardy goats from stock imported from Smyrna. These are smaller than the common domestic goat, but are very active and healthy. They are also very tractable and gentle.

The goats of California and Texas are more or less of the Angora variety. A similar goat from Angora stock has been bred in Africa and a most lucrative industry has resulted therefrom, especially in the Karoo districts of South Africa, where it is estimated there are at present about four million goats. Almost every farmer in Karoo has his flock of Angoras, several hundred in each.

The first of the goats were obtained in Turkey at a cost of $2,000 per head. A distinguishing characteristic of these goats is that the heads are small and narrow, with drooping or lop ears and the horns light in color, directed outwards. The small body is covered with a beautiful fleece of white, lustrous, wavy, silky hair which reaches nearly to the ground. The Indian goat is considered by some to be the best. The Portuguese goats are valued on account of their great size and the smallness of their horns. The uses of the goat are numerous, the flesh is good—that of the kid or young goat is in most countries considered a delicacy.

In the time of Queen Elizabeth, among the dishes mentioned, prepared by French cooks for the nobility, we find the kid was a favorite one.

The milk of the goat is rich and nutritious, more easy of digestion than that of the cow, and is often prescribed to consumptive patients. In Ireland babies take the milk direct from the goat. Some goats yield as much as four quarts of milk daily, although the average quantity is more nearly two. Both cheese and butter are made of goat's milk. They have a peculiar but not disagreeable flavor. Goat's milk is still very much used in Syria and other parts of the East, as it was in the days of the Patriarchs. It is also used extensively in Mexico and considerable butter is made in that country from goat's milk. The following letter is interesting concerning the use of goat's milk in Switzerland:

CONSULATE GENERAL OF THE UNITED STATES.
ST. GALL, SWITZERLAND, Sept. 21, 1897.

HON. WILLIAM R. DAY,
Assistant Secretary of State, Washington, D.C.

SIR: Acting in accordance with department instructions, conveyed in Department's despatch Aug. 24, 1897, I have the honor to report the following concerning the goat milk cures in Switzerland.

I would state in the first place that there would seem to be few, if any, purely goat milk cure establishments in the country. At all the mountain resorts and "Kurorte" goat milk is provided as well as the milk of the cow. Goat's milk is said by physicians to be freer from tubercles and more nourishing than any other milk, and hence is often prescribed for patients ot a consumptive tendency. I am told that except for the above mentioned qualities, goat's milk is of no greater value than the milk of the cow. In fact, it is stated that the latter, when boiled, is quite as good as the milk of the goat; but inasmuch as many persons dislike to drink boiled milk, fresh goat's milk is prescribed instead.

In French Switzerland, at Lausanne, Vevey and other places, boys go from house to house with a half dozen goats, supplying milk, as it is called for, by milking the animals on the premises. The price of goats is from $5 to $8 each. The Canton of Appensal, in Northeastern Switzerland, is particularly noteworthy for "Kurorte," where is dispensed the milk of the cow and the goat, the towns of Herden and Appenzell being the principal points.

I send under separate cover some pamphlets describing in general terms cure establishments in Herden and Davos. I am, sir,

Your obedient servant,
[Signed] IRVING B. RICHMAN,
Consul General.

Goat's milk resembles cow's milk, the butyracious matter which enters into its composition is more nutritious than that of the cow. Milk contains nearly all the elements which are essential constituents of the human body and is an excellent food. Barthoiow states that milk is constituted essentially of four elements—albuminoid, fatty, saccharine and saline—and therefore contains all the materials necessary for the growth and nutrition of tissues. Goat's milk is rather richer in solids than cow's, according to Payen 14.4 per cent. It also contains a peculiar smelling acid, hircic, and specific gravity 1032 to 1036. Cow's milk 1030, asses 1023 to 1035.

A cow gives variable quantities of milk according to age, race, etc. Twenty to twenty-five pints in twenty-four hours, and goats give from six to eight pints. The hercic acid referred to is a mixture of various homologous fatty acids contained in certain animal fats. The Standard Dictionary defines hircine—of, pertaining to, or like a goat; especially having a goat-like smell. Of course the milk of the goat depends largely upon its feed. Goats receiving good care, abundance of pure water, good hay, grass and grain, with clean and wholesome barns and with fields accessible where they can obtain sunshine, yield a superior milk to those which from their miserable surroundings and improper food are continually neglected. The goat keeps healthy and contented under treatment which would seriously damage other animals. A very useful work, "The Advantage of Goat Keeping," has been published by the Bazaar office in London. Another article on the advantage of keeping goats is to be found in Chambers' Journal, September, 1883.

Professor Austin Flint was one of the physicians in this country to recommend the use of goat's milk. In Dr. Chavases' "Advice to a Mother," goat's milk is strongly recommended. A letter from Mr. Lucien G. Walker, U. S. Consul at Queenstown, Ireland, states that goat's milk is used largely throughout that country for the treatment of consumptives. The skin of the goat was early used for clothing and is now dressed as leather for many uses, particularly for making gloves and the finer kind of shoes. The hair, which may be advantageously clipped yearly, is used for making ropes which are indestructible in water. The hair is also used for making wigs for judges, barristers and ecclesiastical dignitaries. The use of the hair of certain varieties of goats for making valuable fabrics is well

known. This applies particularly to the Cashmere goat. The horns are used in making knife handles, and the fat is said to be superior to that of the ox for candles.

In Holland goats are employed in drawing children's carriages, to which as many as four are sometimes harnessed together, and are sufficiently tractable and obedient to the rein.

One of England's most gallant regiments, whose blood has been spilled in heroic conflicts in almost every land—the Prince of Wales' own Royal Welsh Fusiliers—have a goat which always marches at the head of the regiment, when on parade and often in action as well. At the battle of Bunker Hill, in the charge which the gallant Fusiliers made, every officer was either killed or wounded, but even under this murderous fire, Billy, the goat, came out unscathed. Whenever the goat of the Fusiliers dies in action or by natural causes it is replaced by the express orders of the Queen.

The goat usually gives birth to two young ones at a time. A hybrid between the goat and the sheep has been produced and it has been described as being fertile, but there is no evidence of fertility except in connection with one of the parent races.

We have seen the various uses for which goats have been and are yet employed. In the book of Leviticus we read of the sacrifice of a goat for the cure of souls. Modern Medical Science has found a new field of usefulness for goats which bids fair to be of the greatest importance.

In the development of Serum-Therapy the horse has been the animal from which the serum has been obtained. For several years the most careful experiments have been conducted by our leading bacteriologists.

In the report of the Surgeon-General of the United States Navy, for 1895, a paper is contributed by Dr. F. J. B. Cordeiro, Past Assistant Surgeon, concerning Behring's diphtheria serum, in which appears the following statement: "There is yet another kind of immunity, an innate or species immunity, which renders certain species incapable of acquiring a disease which is deadly in other animals." For instance, dogs are immune to anthrax, and horses to tuberculosis. In regard to this latter statement concerning tuberculosis in horses, Dr. Lientard, of the Veterinary College of New York, in a recent letter to the writer, states that in his opinion horses are not free from tuberculosis, though it is very rare. Cases are on record where the post-mortem lesion positively proved the nature of the disease, but I believe that where such lesions have been discovered the conditions for the reception of the disease must have been of such an extraordinary nature that the development proved the rule by its rarity. Therefore, before accepting the theory that tuberculosis can be developed in the horse we should need to carefully examine into the histories of these reported cases.

In a recent article by Dr. Spalding, of Boston, in the New England Medical Gazette, he states that there are those who believe that the immunizing process in preparing horse blood serum is superfluous in the treatment of diphtheria. He also states that no one has ever yet seen a horse ill with genuine diphtheria, and if so this immunizing process to which it is submitted is quite superfluous. Dr. Burton, of Nantes, takes this ground, and has used the normal non-immunized horse blood serum in the treatment of diphtheria with as good results as have attended the use of the ordinary antitoxin. We believe that the same theory holds good in regard to the use of horse blood serum in the treatment of scarlet fever, tuberculosis, lupus and leprosy. In other words, that the quantity required to bring about antitoxic results will not be found too bulky or too slow in its action.

Horse blood serum is a natural antitoxin. In the New York Medical Times of recent date a paper is quoted from Lacruz (Arch. de. Gen. Obstet. Y. Pediatria) in which the author states that he has tried the effect of serum from a healthy horse on several children in his wards. Doses from 3 to 5 Cm. were injected daily and repeated every day for three or four weeks. The serum seems to act as a most powerful tonic, the red corpuscles increase in number, weight is gained and the child visibly becomes stronger. There are no untoward secondary effects—no rise of temperature, and no acceleration of the pulse; there is no erythema, and no albumin. The good effects of the injections are quickly manifested, cases of athrepsia in particular are speedily benefited and the cure is maintained.

Sixteen cases of chorea treated in the manner described were cured in a period of fifteen days on the average.

The experiments of Dr. Carrisquilla, in the use of horse blood serum in the treatment of tubercular as well as in the nervous varieties of leprosy, have been most successful. Dr. Goldsmith has published some interesting items in a recent number of the Journal A. M. A. on the treatment of tuberculosis, in which he states that the treatment to be successful must be based on natural law. The soil of growth must be changed together with the destruction of the microbes. Horse blood serum introduced into the circulation of patients suffering from contagious and infectious diseases does, by the process of mixing a healthy antitoxic fluid with the circulator of fluid in the individual, counteract the march of the disease, sustain and nourish the patient, and in time bring about a cure.

"It is not claimed that this agent is so powerful that it can act absolutely alone, but as the assistant of sanitary science it is probably a most valuable therapeutic agent, and worthy of our most serious considerations."—Extract from a paper by the writer at the meeting of American Medical Association, at Philadelphia, in 1896.

If this position concerning the uses of normal horse blood serum is well taken then we may assume that it is equally true of normal goat blood serum. Indeed we feel secure in asserting that the goat blood serum is decidedly more valuable than that of the horse, while in the goat tuberculosis is absolutely unknown. The natural immunity of the goat is, we believe, fully established.

In the course of these investigations inquiry

was made of the literature on the subject of goat serum in the library of the Surgeon-General.

The following letter is interesting in this connection:

WAR DEPARTMENT,
WASHINGTON, D. C., August 11, 1897.

DR. W. THORNTON PARKER, *Groveland, Mass.*

DEAR SIR: Your letter of Aug. 7, to the Surgeon-General U. S. Army, is received, and in reply to your request I regret to say that the literature on the subject of "goat's blood serum and milk in the treatment of tuberculosis" is meager. I am able to refer you to but one article, namely: Boinet, Traitment de la Tuberculose Humaine par le Serum de sang de Chèvre Inoculee avec de la tuberculine." This is published in Gaz. d. Hôp., Par., 1895, lxviii, 875; also in Compt., rend. Soc. de Biol. Par., 1895, 10 s., ii, 543; and in Cong. Franc de Med., 1894. Par., 1895, i, 538.

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Very truly yours,

[Signed] C. J. MERRILL,

Major and Surgeon U. S. Army; Librarian, G. S. O.

The article referred to in the Surgeon-General's letter concerning the goat blood serum by Dr. Boinet is as follows:

TREATMENT OF TUBERCULOSIS BY GOAT BLOOD SERUM INOCULATED WITH TUBERCULINE.

BY DR. BOINET, OF MARSEILLES.

The communication of Messrs. Redon and Chenot, made to the Society of Biology, leads me to complete the remarks which I made the 27th of October, 1894, at the French Congress of Lyons, concerning sero-therapy in tuberculosis.

A series of experiments had demonstrated so well the action of this serum in hindering the development (or spread) of human tuberculosis in the organism of guinea pigs that I had not hesitated since that time to treat tuberculous patients with subcutaneous injections of from two to four cubic centimeters of this serum.

During the months of January, March and April, 1895, I made the following experiments upon three series of five guinea pigs:

The first guinea pig serves as witness and remains in good condition; the second guinea pig is inoculated with miliary tubercles of the lung of a man, and he dies of granulation two or three months after.

The same quantity of human tuberculine is injected under the skin of three other guinea pigs of the same age and living in the same cage. They had previously received several subcutaneous injections of this serum. The dose had varied from six to sixteen cubic centimeters. The majority of these immunized guinea pigs have resisted (or recovered); several are now, after four months, in good health, and three females have little ones, two or three months old, enjoying excellent health.

These results authorized therefore the employment of subcutaneous injections of two to four cubic centimeters of this serum in tuberculous patients.

Eight cases have been treated by this method. In three cases of tuberculosis (torpid apyrectic) characterized by dry coughing, the results have been very favorable.

A marked relief has been observed in two cases of tuberculosis in second stage.

Those injections have not an appreciable action in cases of tuberculosis advanced with cavities. They are injurious in the case of quick consumption, bringing fever, hæmorrhages, night sweats, and complications of the larynx.*

In the *International Medical Annual* for 1892 is the following on the use of goat blood serum in the treatment of tuberculosis:

An entirely new point of view has been reached in the line of study opened by Drs. Richet and Hericount, who have endeavored to confer on an animal liable to tuberculosis a more or less marked degree of immunity to tubercular infection by the transfusion or introduction into the economy of the blood of an animal refractory to tuberculosis.

The results of these experiments were announced at a recent meeting of the Société de Biologie.

Dr. Lepine, of Lyons, on the supposition that goats are refractory to phthisis, has been experimenting on patients by injecting goat's blood or its serum subcutaneously. He finds that subcutaneous injections of serum cause so large a surface to become painful that it is impossible to repeat such injections frequently. When, however, they are intravene, they may be repeated every two or three days, eighty or one hundred cubic centimetres being introduced each time.

There is, too, practically no danger, and scarcely any pain, if the serum and all the apparatus are properly sterilized, and if the operation is conducted slowly.

A goat in good condition will give 400 grammes of blood. This is drawn through a cannula inserted into the jugular vein, and is caught in a vessel half immersed in cold water. It is defibrinated, filtered through sterilized muslin and then put into tubes attached to the circumference of a revolving disc, which is made to revolve by steam power 2,000 times per minute for about forty minutes; after which the separation of the corpuscles from the serum being complete, the latter is transferred to a sterilized vessel provided with an india rubber tube issuing from the bottom and closed above with cotton wool. The patient's arm having been disinfected and tied as for phlebotomy, a prominent vein is selected, and a very fine silver trocar inserted without dissection, which is by no means a difficult operation. This is cautiously connected with the india rubber tube, and the serum allowed to flow into the vein very slowly. If the patient should feel *malaise* the flow must be stopped by lowering the reservoir. The highest amount that Dr. Lepine has transferred at one

* *Gazette des Hospitaux*, July, 1895, p. 875.

sitting has been 100 cubic centimeters. When the blood itself was transfused not more than forty grammes could be borne, the patients complaining—for some not very evident reason—of extreme pain in the loins.

Dr. Lepine does not as yet profess to be able to say how far this method of treating diseases by injecting blood or serum from an animal refractory to such diseases is likely to be successful; but it is, he considers, a promising idea, and he thinks it has the best chance of succeeding if the serum only is used, as the corpuscles appear to him, if anything, to hinder the good effect.

In reply to a communication published in the Journal of the American Medical Association and in the New York MEDICAL TIMES, I have received some very interesting communications concerning goat blood serum.

One from Dr. Carl Von Ruck, on goat blood serum, is especially valuable and will be found in the October, 1897, number of the New York MEDICAL TIMES.

REPLY TO DR. PARKER'S INQUIRY AS TO THE USE OF GOAT'S BLOOD AND MILK IN THE TREATMENT OF DISEASE.*

Translated from the French. (Transactions of Congress for the Study of Tuberculosis, Session of 1891.)

NEW YORK CITY, October, 1897.

To the Editor:—"In a work published last year we have shown that it is advantageous to substitute the goat for the cow for vaccinating purposes. The goat is refractory to tuberculosis, not when she is inoculated only, but in the ordinary tenor of its existence. When rabbits were inoculated with tuberculosis, if goat's blood was transfused into them the same day, these rabbits resisted inoculation; if the transfusion was strong after inoculation the tuberculous processes retrograded and were cured. The transfused goat's blood determines then, in the rabbits, a bactericide condition. Could not it act similarly on man? As the transfusion of animal blood to man was not without danger, we recurred to subcutaneous injections or even intramuscular injections of goat's blood, complete and fresh. The injections were of 15 to 20 gr. and repeated three or four times in the same patient with intervals of ten to fifteen days. Of 110 patients, 10 had abscesses, 50 to 60 urticaria. The patients who suffered with laryngeal phthisis reaped no benefit from these injections; in the cases of pulmonary caverns there were some ameliorations.

The amelioration was evident in the cases of tubercular bronchitis, tuberculosis of the first degree, ganglionary tuberculosis, osseous tuberculosis and the lupus."—*Bertin and Picq.*

Transfusion of Goat's Blood in Pulmonary Tuberculosis.

"The goat is refractory to tuberculosis as I have seen by the autopsies of forty-eight individuals and by the injection (intravenal) of bacilli into four others. While the rabbits inoculated with tuberculosis die within two months, if they are left without treatment, those injected with goat's blood die less quickly, and those into which this blood is transfused present caseous foci but without generalization. I have satisfied myself by other experiments that the transfusion of blood from one animal to the other is not dangerous. I have, therefore, transfused goat's blood into man. The apparatus which I used consists of two trocars, joined by a rubber tube; the one, rather voluminous, is introduced into the carotid of the goat, the other, capillary, into the cephalic vein of the patient; 100 to 120 grammes of blood may be transfused in one minute. The first sittings must not last longer than fifteen to thirty seconds, the subsequent ones more than one minute. I have thus treated two chloro-anemics, who were cured; seven tuberculous of the second, one of the first degree, who may be considered as cured inasmuch as their general condition is good and the physical symptoms as well as the bacilli have disappeared; three more tuberculous who were ameliorated; finally two, who at first ameliorated, have since died rather rapidly. A last patient who had reached the last degree of cachexia, died of syncope in the course of the transfusion."—*M. Bernheim.*

In conclusion, my plans with the goats I have upon our farm and with others which it is my intention to obtain from Wales, Ireland, Mexico and Georgia, are as follows:

To prepare the non-immunized goat blood serum for use as a natural antitoxine in tuberculosis, pneumonia, enteric fever, diphtheria, scarlet fever, cancer and as a nutrient in wasting diseases in general.

It is also proposed to use the goat blood as a nutrient in wasting diseases. The milk in the place of cow's milk and the flesh in the place of that of cattle. The complete treatment will be offered to patients as opportunity offers.

The greatest care will be observed in the selection of the goats—only those of extra strength and health and ruggedness will be employed. Those which we have are of superior constitution. The farm is particularly well situated for the purpose of raising goats under the most favorable conditions.

It is on high land, remote from all sources of contamination either in air or water. The atmosphere is fresh and clear, the winds blow from the open sea and from the mountains and the forests.

The food for the goats is the best of grazing, hay and grain and pure water. The barn is large and clean, well ventilated and absolute cleanliness is insisted upon.

The premises are open to the inspection of medical men and every possible effort to follow out strict sanitary rules, in the care of the flesh, the milk, the blood and the serum will be carefully made.

Women are gradually working their way into the German universities, where a few have been admitted, not as of right, but as of favor. Five ladies have up to this time taken the doctor's degree at Heidelberg. One of them, an American, made so brilliant a success that she was at once offered an appointment at the German Zoological Station near Naples.

* From the Journal of the American Med. Assoc., Oct. 23, 1897. Contributed by Dr. Ashmead, concerning Goat's Blood and Milk.

TREATMENT OF GONORRHŒA.*

By Elmer Lee, A.M., M.D., Ph.B., New York,
Vice-President American Academy of Medicine, 1897.

IT would seem that nothing new could be said upon the treatment of a disease which has tormented the urethra of the male since the day of the sin of Adam. It would be thought that long ere this, a scientific therapy could have been devised against this scourge of the male sex. The attempts have been many, but the gain has been in the number of methods rather than in satisfactory and successful treatment. The practical physician experiences frequent disappointments in the management of urethral gonorrhœa, while the patient suffers much for his moment of privilege and folly. A laboratory with the resources of the Pasteur Institute of Paris might worthily have devoted the great zeal of its directors and students to the discovery of a therapy for a universal disease like that of gonorrhœa, rather than a vainglorious attempt to prevent hydrophobia, a disease of doubtful existence and one which aged men in the profession have not seen so much as a single case.

It is not pleasant to the physician, as a rule, to treat cases of gonorrhœa, owing to the uncertainties which often follow the usual plans in vogue. The patient generally increases the annoyance by frequent visits to the office, or neglects to keep appointments, or presents himself when he is not expected. Relapses are the principal apologies for the unexpected calls; all this, together with a train of complications, cools the enthusiasm of the physician and makes for both patient and doctor a hard task, which under different circumstances would be satisfaction for the one and pleasure for the other. There are days and frequently weeks of extreme agony for the patient in spite of the best directed medical counsel. The irrigation method of Valentine is a step in the right direction, but the drawbacks, including the apparatus and the various solutions and slop which may occur from use in the hands of those not experts, together with the giddiness and fainting induced in a large proportion of the patients, lessens the usefulness of this clever and promising plan of treatment.

The classic symptoms of inflammation, heat, redness, swelling and pain, apply in gonorrhœa. In addition, there is the drip and the frequent desire for micturition. The laboratory of the bacteriologist has, unfortunately, not contributed materially anything to practical treatment. The therapy of gonorrhœa, according to latest reports of the most recent investigators, proves that practical therapy rests with the clinician rather than with the bacteriologist. Taking the symptoms enumerated under the classic description of inflammation, a sufficient and satisfactory basis is established upon which to construct a therapy which will meet the requirements of cases of specific and non-specific urethritis.

The plan pursued in my practice is partly new and partly old, but generally satisfactory, and is not complicated, which is a large factor in its favor. The treatment is begun in all acute cases by the frequent application of pounded ice to the urethral side of the penis. A small rubber bag, similar to a rubber condom, is partially filled with fine pieces of ice, and this is laid against the under surface of the penis and secured with a few turns of a broad bandage or binder. Care should be taken to see that the air is first expelled from the rubber ice bag before the string is tied near the open end. This ice poultice is to be adjusted at night before retiring, and allowed to remain till morning. Where practicable, the ice bag should be applied both in the morning and again in the afternoon, but this is a matter which is to be determined in each case, according to circumstances. The chilling of the urethra is quite free from danger of harm to the patient, and after the first few moments the penis is benumbed so that the cold is not disagreeable even though maintained for a long time.

No other local treatment is permitted or advised till the heat, redness, swelling and pain is entirely gone. It may take a week or it may be even two weeks before this is accomplished. But during the time of the ice treatment, the patient is spared from painful and other complications. When it is possible to urinate without distress, it is then time to lay aside the ice and take up the next step in the local treatment.

The second step is as simple as the first, as it consists of an injection of zinc sulphate and water, four or more times a day, generally but four. The solution is prepared each time by the patient, dissolving a tablet triturate of sulphate of zinc, one-half to one grain to the syringeful of water. The water may be either hot or cold; my preference is for cold water. After the subsidence of the acute symptoms, a week of the injection may end the drip and complete the cure. There will be cases which will require two and even three weeks' use of the zinc astringent.

In cases where the only symptom presenting is a discharge from the meatus, the first step is entirely omitted and the injection is made the beginning and concluding treatment.

The general treatment is important and is begun from the first visit of the patient. Stimulants and tobacco are discontinued where possible, and in other cases reduced to the minimum. The food is simplified and restricted in quantity, two meals a day are sufficient, and fruit is ordered in great abundance. The drink should consist mainly of plain water, and in large enough quantity to keep the specific gravity of the urine below 1015. The comfort of the patient is greatly augmented by taking care to follow these general directions, at the same time their observance contributes much to a speedy cure. The use of irritating drugs such as cubebs and oil of copaiba and others of that class, also bromides, are unnecessary and better kept out of the system. The simpler the treatment, the fewer complications will arise requiring offensive chemicals to meet emergencies. Where the simple plan advocated in the paper is slow in producing good results, it would probably be no more rapid by a more complicated practice. So long

* Written expressly for The Medical Times.

as the patient is progressing favorably, there is no occasion for impatience or undue haste to rush the cure.

In some instances, the recurrent catheter has been used with good effect, for cooling the internal surfaces of the urethra, as an aid to the external application of the ice bag. That is, the catheter would be employed in the office while the ice bag was to be managed by the patient at home. When the recurrent catheter is used, a fountain containing two quarts of ice water is suspended at a suitable height, just high enough to keep up a gentle current. The stream of flowing cold water is kept running for twenty or thirty minutes at each seance, thereby cooling the urethra and the blood which courses through its walls. The effect is to reduce the heat and also diminish the volume of circulation, with a diminution of the calibres of all vessels entering and leaving the urethral walls, contributing directly to the abatement of inflammatory action. The chilled and contracted walls of the blood vessels and the cooled blood lowers the circulation but does not induce congestion or, in fact, any harmful result so far as my observation has gone. The external application of the ice poultice, however, is less troublesome both to physician and patient and will generally suffice.

A patient recently treated for acute gonorrhœa passed through the successive stages with a minimum of inconvenience and at the end of five weeks was perfectly well. The time required for a cure is not materially less than that by other methods, but the pain and suffering for the patient with the consequent annoyances to the doctor are completely avoided. It is a privilege as well as a duty of the physician to render treatment which will not only satisfy the patient, but at the same time render the life of the profession as free as possible from a driving and harassing care. My object in treatment is to speedily aid the patient and lighten and remove as far as possible the worry from both doctor and patient. The success which has attended the method described in the paper is proved to be satisfactory in practice, and is at this time the course pursued in all cases. The patient seldom or never disturbs me at unexpected hours or complains of dissatisfaction with the progress of the treatment.

There is another feature of most important consideration with reference to the management of gonorrhœa in this connection, and is a direct contributor to success. In taking cases of this character it is the invariable rule to arrange with the patient at the first or second visit for an agreed fee without contingencies or defaults. Say the fee agreed upon is $100, it is to cover the whole treatment, the patient is free to visit the office as often as may be necessary without thought of augmenting the size of the bill. Punctuality is thus secured and far better co-operation established than under the fee per visit plan. The doctor is willing to hasten the cure and the patient is eager to avail himself of the medical counsel at every appointment. The patient will cheerfully agree to a fee at the beginning of the treatment which he would think excessive and decline to pay at the end of the case. Whatever the fee, it is easier to arrange for it at the inception of the case than at the end, and it is right and proper that one half of the money should be paid at the start; it will save trouble. Let the fee be definitely settled, whether it be much or little, when the case is taken, it is more likely to be agreeable to the patient, and in the end will amount to a great deal more money to the physician. The point of great importance is to secure full co-operation and also to leave no room for financial disputes at the end. The pleasure of practice is decidedly increased by keeping up the terms of mutual respect, and there is no one element which will more quickly shatter pleasant relations than contention either as to the amount or the payment of a fee. The patient will think much more highly of the medical counsel if it is conducted upon business principles. It is my privilege and fixed rule to settle the terms of treatment at the beginning of the case, and to this rule is due much of my success and a large measure of professional pride and pleasure in the practice of medicine.

10 West 49th street.

(1) FECAL IMPACTION.
(2) A CASE FOR DIAGNOSIS.

By Joseph M. Mathews, M.D.

Professor of Surgery and Clinical Lecturer on Diseases of the Rectum, in the Kentucky School of Medicine, Etc., Louisville, Ky.

LAST week a patient was sent to me from the South. When he presented himself at my office he had letters from two physicians explaining the nature of his case. One said that he had an enlarged prostate in dimensions the size of his fist which encroached upon his rectum, so much so that the passage of fecal matter around it was difficult; that because of this enlarged prostate he had difficulty in making water, and therefore he sent the patient to me. The other gentleman in his letter said that he quite agreed with the statement of the first physician, but would beg to say that in addition to the enlarged prostate I would find that this man was suffering from a rectocele(?). I say rectocele with an interrogation point, in that the man had no protrusion at all from the rectum, and I cannot understand why it should have been supposed that he had a rectocele.

When the patient presented himself I found him to be a man seventy-two years of age, with a robust constitution, fine physique, who had been in excellent health until within the last two months, when he complained of frequent desire to evacuate his bowels and the involuntary passage of his feces, with some difficulty in passing his urine, a heavy weight in the perineum or a sense of discomfort in the rectum all the time as if he desired to go to stool. After reading the letters I remarked to the patient that the case

* Reported to the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

might be out of my line, and that I would have to select a surgeon to whom to refer him, but I said: "Suppose you allow me to make an examination?" He went into my consultation room, laid down upon the table, I introduced my finger into the rectum and found in the first place that his prostate was perfectly normal; if I may be permitted the expression, more than normal to a man of his age, there was no enlargement at all. I found no pathological change whatever in his rectum, with no history of a protrusion from his rectum, but feeling as far as I could by pushing my finger into the gut, I found a large ball of fecal matter in the sigmoid flexure, and then suggested that his case did fall in my line. I had him go to the Infirmary and under chloroform the next day I dilated his sphincter muscle, inserted my finger into his rectum and detected that he had an impaction of feces in the sigmoid flexure as large as the fœtal head. It was of the consistence of putty, nearly of glue, a white mass, so much so that introducing an instrument, a very large curette which carried a stream of water behind it, I broke down and scooped out a great deal of this clayey mass, but I found it impossible to remove one-tenth of it. I was afraid to handle the instrument in the sigmoid flexure because of the danger of wounding the gut, but I broke down the mass effectually. The next morning I gave him a purgative and a high irrigation of the colon, the long tube entering nicely, and in five days he succeeded in passing the entire mass which was a very large amount. This afternoon he returned home feeling entirely relieved of all symptoms.

In connection with this case I desire to say that I have never witnessed but two impactions of the sigmoid flexure, and they were both produced by the same cause, and that was by the eating of oatmeal. Dr. Roberts will remember that the father of the present Health Officer of the city of Louisville died from impaction of the sigmoid flexure produced by oatmeal eating. He had some disturbance of the digestive apparatus and concluded to eat oatmeal exclusively—no other diet—for a number of days extending into weeks, he had the same character of impaction and died.

The patient, who is the subject of this report, told me that he had some disturbance of the bowels, and concluded to live upon oatmeal, eating it every morning at least; he made his breakfast entirely of oatmeal, so it leads me to conclude that the aged, especially, should avoid this diet. I do not know but it might be a good thing to give the same advice to those not aged. In reply to the question which has been asked if any evidence of fecal impaction was discovered by external examination, I will say that the patient was very fleshy and nothing could be detected through the abdominal wall.

Case II.—The second case is equally remarkable so far as the diagnosis is concerned: Three days ago I received a telegram to come to Knoxville, Tenn., to see a patient and to give an expert opinion in a case of rectal trouble. I took the night train and arrived in Knoxville the following morning at eight o'clock, was driven to the home of the patient, whom I found to be a very prominent citizen of that city and a very intelligent man. His physician had left the city ten days previously on a pleasure excursion, and had left the patient under the observation of a younger member of the profession. I asked that this physician be sent for before I interviewed the patient. When he arrived and we went into the room he told me that this man had some rectal ulceration, so he had been told by the older physician, but he had never himself made an examination of the rectum; that the patient had been treated for months—indeed, had had the disease for several years; that the treatment of the older physician had extended over several months, his method being probably the application of nitrate of silver and other agents of this class. Going into the room where the patient was I found a man forty-five years of age, who apparently, to judge from his physical condition as far as appearances are concerned, was in a rather healthy condition, I at once proposed a rectal examination. Getting him in position I introduced my finger, which is the best method of examining the rectum, and found just inside the rectum between the two sphincter muscles a sinus, or hole, into which I could introduce my finger to the depth of an inch; above this was another sinus, or opening, into which I could introduce my finger and run it around the gut laterally for about an inch. Feeling further up on the perineal side or in front, there was an infiltrated condition of the tissues, not an ulceration, because the mucous membrane was intact, but to the extent of two silver dollars put together, and directly above it was a polypus, the size of my finger, just at the entrance of the sigmoid flexure that evidently played above and below. This man gave the history of having had diarrhœa, having in the past occasionally passed clotted blood and some mucus from the rectum together with the diarrhœa. Two weeks before my visit he had said to his physician of his own accord, "I am feeling so badly that I believe I will go to bed." The doctor said perhaps it would be well for him to do so and shortly afterward left the city as I have stated. The gentleman said after going to bed he made up his mind to live upon a milk diet, which he had done for ten days before I saw him, still the bowels were acting eight or ten times a day.

After my examination I confess I was of the opinion that we had best remove the polyp, which I proposed to do, applying a long clamp, cutting off the polyp and leaving the clamp for a short time, then to divide the condition of the rectum below, trimming off the edges to encourage healing, and trust to the other condition, which I took to be from irritation, to be absorbed by nature. I moved around to the front of the bed more to talk to the patient and explain the condition to him than anything else, when looking into his face I did not like his appearance, and asked him to let me examine his tongue; he put out a tongue that was red, coated, furred, and I said to him that he had a coat on his tongue, and he told me that the physician stated before leaving that this furred or coated condition of his tongue

was from the milk which he had been taking. I asked the attending physician what the patient's temperature was, and he said he did not know as he had never taken it. The thermometer showed at that time a temperature of 101 degrees Fahr. I asked if he had any pain, he replied that he had great pain at times throughout his abdomen. He was at that time more or less lethargic. I pushed down the sheets and found that he had a tympanitic belly which was extremely sensitive to the touch.

We went into the consultation room and I said: "Doctor this man, in my opinion, has typhoid fever. He now has peritonitis, and I consider him in a dangerous condition, and I cannot, of course, under the circumstances operate at all." Last night about nine o'clock I received a dispatch from the patient's wife (and this case is reported more to get your advice) reading as follows: "Fecal matter is coming from the bladder, will this be fatal?"

Now, in summing up the case it is very plain that the attending physician, who is one of the most prominent men in that city, believed that the symptoms presenting all originated from the patient's rectal trouble; there was no rectal trouble *per se* to give rise to any such symptoms as this man had. Secondly, no account of the temperature, pulse or tongue had ever been recorded, and he had not been visited by his physician for ten days.

What I desire to ask the society is, has this man typhoid fever? I think he has. Has he peritonitis, septic or otherwise, independent of typhoid fever? What is the meaning of this dispatch? There can be no communication between the bladder and the bowel in this case in my opinion except through the rectum. Is it that the ulceration that is manifest in his rectum, which in its entirety showed to me to be covered by mucous membrane and was not ulceration at all—is it that this has been percolating fecal matter into the bladder and out through the urethra? If so, as he has never passed fecal matter through the bladder before, what part does that play in his trouble? That this man is seriously ill I do believe, if not fatally ill, that his symptoms do not occur from his rectal trouble I am perfectly satisfied, and my honest belief is that the man is suffering now and has been suffering for quite a number of days with typhoid fever. I also ask what is the cause of the peritonitis? It is a case that has given me a great deal of anxiety. His temperature when I left him was 102 degrees Fahr. and showed a rise at night. He said to me himself: "Doctor I have been having fever for three weeks." He said before he went to bed he had a temperature of 102 degrees Fahr. I am not aware how he knew this.

Now the question is whether or not the sinus running around the gut laterally has communicated with the bladder since I saw the patient. I certainly could not find any such communication at the time I examined him. I simply report the case because I am very much concerned. In the first place, perhaps, I made a correct diagnosis and perhaps not. The man presented almost a typical case of typhoid fever to me. I know his rectal trouble did not cause him to have a temperature of 102 degrees Fahr., with a typical typhoid tongue and almost a typhoid condition. Understand me that he had passed no fecal matter from his bladder or urethra, and there was no such history at the time I saw him, but a message came last night stating that he is passing fecal matter from the bladder. What connection has the peritonitis with this fact, or has it any?*

I have been misunderstood in one particular. I did not make the positive diagnosis of typhoid fever. I asked this society to make the diagnosis for me. After I examined this man and consulted with his physician in the adjoining room, I said to him that the patient certainly had peritonitis, and the question is what could have caused it?. I feel sure the condition I found in the rectum could not have been responsible for it. I made this statement at the time and am still positive about it. The man had been ill nearly three weeks, he was ill enough to say to his physician, two weeks before I saw him, "I feel so badly physically, not from pain or disturbance in my rectum, but so badly in a general way, that I must lie down, I believe I will go to bed." The condition, whatever it is, had then evidently existed for a week. Prior to that time, that is, three weeks prior to the time when I saw him, he had had no peritoneal trouble, he had no pain, so far as I can learn.

Let us take into consideration some of the questions brought up in the discussion: Anatomically where were the openings or sinuses I have described? They were just inside the verge of the anus, just above the external sphincter muscle, and I could introduce my finger into the openings about one inch. I operated on a young girl this morning, twenty-two years of age, having exactly such a condition. She had no elevation of temperature, no evidence of fever, no acceleration of pulse, no coated tongue, and said she had suffered with the condition for over a month. Suppose I could hook my finger into the opening for one inch, where would it go? Simply into the tissues around the rectum and not toward the bladder. It would not reach the bladder within three inches. The lower part of the rectum as far as the sinus is concerned has nothing to do with the bladder. I found an infiltrated condition, but not an ulcerated process, two or three inches above, not over the bladder, it was not contracted at all, there was no pain, it was perfectly smooth and above that I found a polyp. I cannot conceive of a perforation in that portion of the bowel which in twenty-four hours would give evidence that could not have been detected when I saw the patient.

As to the question of sepsis: That diagnosis occurred to me, but I watched the patient through the day. When I examined him at eight o'clock in the morning his temperature was 100 degrees Fahr.; at noon, as I have stated, it was 101 degrees Fahr.; when I examined him at 7:30 P.M., be-

* An interesting discussion, which our space forbids us to print, ensued, and Dr. Mathews made the closing remarks.

fore starting to the depot, it was 102 degrees Fahr. Is that the way sepsis deports itself? Not at all. I feel confident that later in the evening his temperature was 103 degrees or 104 degrees Fahr., and have asked that the chart be sent me. In sepsis we have collapse, sweats, etc.; there is no such history in this case. The man had been sick with fever for three weeks, there was no wetting of the bedclothing with perspiration, no shock, as I asked particularly about this, and there was no evidence of collapse up to the time I left, with a pulse of 120 or perhaps higher. Before I left, after observing the patient for twelve hours, I said to his doctor: "This is a peculiar history, the temperature varying, a gradual rise in the afternoon and evening reaching 102 degrees Fahr., without any evidence of collapse or sweating, with the history that he has felt languid and sick for two weeks. I cannot help but have it in my mind that this man has typhoid fever and has had it for at least two weeks. At my first examination I believed the trouble was sepsis, but why should he have sepsis? Has not every surgeon or physician in this room witnessed tubercular ulceration of the rectum even to entire destruction of the gut, of the rectum proper, without any peritonitis? I have seen such cases time and again. I saw such a case to-day, and there will never be any evidence of peritonitis unless there is a perforation. If there is a perforation in the case I have reported, where is it from? We would naturally think, as stated in my former remarks, from the rectum to the bladder. But Dr. Cheatham's question is very pertinent here. If there is a perforation from the rectum into the bladder, why does not this man have a discharge of urine from the rectum instead of fecal matter from the bladder? I confess the case is rather an enigma.

My examination was very simple. I did not use an instrument, simply inserted my finger into the rectum and pushed it down into this internal fistula or sinus. It certainly could not have gone three inches forward and jumped into the bladder; we could not have a perforation from that cause.

I am impressed with the fact that this may be a tuberculous degeneration of the gut, it may be more extensive than I imagine. If this man has not typhoid fever, I am inclined to believe that the destruction that has been caused by the ulcerative process in the rectum comes from a tuberculous degeneration. He has lost flesh within the last year which I failed to mention in my former remarks. He has no other evidence of tuberculosis. Still you may have tuberculosis of the rectum without evidence of it elsewhere. However that may be, the point I want to impress upon the society is: Here is a prominent man who goes without attention in one of our principal cities, where there are many good physicians, for two weeks, one of the best physicians having previously attended him, without any reference to either the peritonitis, typhoid fever, sepsis or anything else, simply upon the idea that his rectal trouble is all that exists, that it must be giving rise to any other symptoms present and which were really not detected at all, as for instance the high temperature, condition of the tongue, tympanites—these were entirely overlooked. I am called to see the case and find a man in a dangerous condition; what that condition is attributable to I must confess I do not know. I simply relate the case which has some evidences of typhoid fever, some evidences of sepsis, and the question is, What has caused it? I hoped for the elucidation, which I have gotten, from the members of the society.

As to the question of fecal impactions in the Scotch and Irish, compared with other people, I have no statistics to present, as I have encountered nothing in my reading on the subject. The case of Dr. White, father of our present Health Officer, was a very pointed one, because he told us that he had lived exclusively on oatmeal for two or three weeks. In one other instance I have seen fecal impaction from the same cause. We can remove an impaction from the rectum very easily, but to remove it from the sigmoid flexure is quite a difficult matter, and we know that people often die as a result of fecal impactions of the sigmoid. It is easy to overlook fecal impactions in the sigmoid flexure. I have recalled one case in which there was an enormous impaction of the sigmoid which was not detected in examinations made by two excellent physicans.

While, as I have stated, I do not know the statistics on this subject from the standpoint of the Scotch, I am satisfied of this position from observation, that in the aged oatmeal as a diet should be used sparingly and those eating it should be carefully watched. It may be all right for younger people to partake of it. I realize that it has always been regarded as an excellent article of diet, and may be eaten without deleterious effect by those who have no atony of the bowel.

CORRESPONDENCE.

"SECTARIAN PRINCIPLES AND PRACTICE."

"The abnegation of sectarian principles and practice," a phrase copied from the application for membership blanks of the Medical Society of the County of New York, and used by Dr. Jacobus in his opening address as President of that society, gives a fine text on which an editorial writer in a certain medical journal bases a burst of virtuous indignation, and castigates the doctor for his lack of judgment, and his want of knowledge of the force of English.

A cartoon in one of the recent illustrated weeklies represents a jingo brother Jonathan shaking his fist at the European powers, and demanding that they stop throwing stones at him. When they respond that they are not so doing, he asks, "Well, why don't you?" Verily, the blood of the martyrs was the seed of the church, and the persecution and ostracism of homœopathy has given it increased vitality. It has paid to be abused. "*In omnibus caritas*" is a trade mark that must not be pirated, and conciliation is infinitely more objectionable than expressed contempt.

To become a member of the Homœopathic Co. Soc., one must declare his belief in the principle of *Similia Similibus curantur*, and that his practice is in accordance therewith.

The number of medical men whose practice is (exclusively) so in accord is very, very small—a "beggarly baker's dozen" in the great city of New York will probably cover the number. One of these Hahnemannian purists recently told a patient that there was but one homœopath in Brooklyn.

There are certainly not half a dozen who practice rigidly and exclusively in accord with the Hahnemannian formula. I have no idea of entering into a discussion of the merits of any method of practice. Every honest man must practice in conformity to the dictates of his own conscience, but I do enter my protest against sailing under false colors; against the pretense of a regard for a rule of action that is not only occasionally, but systematically ignored. There are scores of men, alleged homœopaths, who are innocent of ever having made a homœopathic prescription, unless it was by accident. They certainly have abnegated sectarian principles and practice in reality, if not in set terms. There facts are axiomatic. Look at the very journal in which Dr. Jacobus' critic pours forth his indignation. It presumably circulates among homœopaths, so-called, but its advertisers find it advantageous seemingly to present to them the claims of some thirty or forty proprietary medicines, mixed drugs and questionable compounds, the use of which no stretch of the imagination can make in accord with the principles of Hahnemann. Its communicated articles suggest varied excursions outside of homœopathy into the domain of the scientific school, gum chewing and injections of pyoktanin are hardly Hahnemannian. We are here cautioned by one of the ablest of the school against a treatment of our patients by means of a blind symptomatology regardless of diagnosis. In the reading matter, but possibly as disguised advertisements, various physicians recommend numerous proprietary articles for their serviceable, reliable and astonishing results. Sainted spirit of immortal Hahnemann, have not your disciples abnegated their sectarian principles and practice with a vengeance?

A calendar comes to me by mail this morning, sent out by the promoters of a patent medicine, and on opening it the first thing I see is a recommendation of the senders' proprietary article, written by a homœopathic physician, read before a homœopathic medical society, and published in a Hahnemann monthly—Consistency, thou art a jewel!

Should Dr. Jacobus chance to see the animadversions of his critic, we trust he will not feel discouraged, but believe that many earnest men hope to see the time when the farce of schools in medicine will be played out?

[Ed. Note.—The writer of the above letter is a man of high standing, even a leader in the so-called "homœopathic school," but we withhold his name from publication for obvious reasons. We publish the letter in order to show which way the wind blows.—Eds.]

THE INFLUENCE OF DRUG IMPRESSIONS, ETC.

The following abstract of a letter from an esteemed colleague, called forth by the articles of Dr. Elmer Lee on "The Influence of Drug Impressions" and "Medical Education," is well worth publication as an indication of the trend of thought in the profession upon important subjects. He says:

* * * * * * * * * * *

These articles are of so much interest and so entirely in accord with my own views, that I cannot refrain from expressing my gratification at their receipt. I am very glad to note such words in reference to the many so-called remedies that come rushing to us from the manufacturing chemists. Scarcely a day passes that I am not in the receipt of some sample or circular telling the all healing properties of the article in question. Especially your remarks in reference to the coal tar preparations has my hearty approval. I myself am very shy of them and very careful in their use. To these I would add aconite, veratria, strychnia and some others. Being somewhat advanced in years, I am naturally more or less conservative. I remember how the old time doctors got very excellent results from a very few remedies, as compared with the number on the market. As you say, one can hardly remember their names, much less their properties and peculiar application. In the interest of the doctors as well as the community, an injunction against these would serve humanity.

I also look in vain for better results in the treatment of disease. Take pneumonia, typhoid, remittent, childbed fevers and many other of our familiar acquaintances, for instance, and how far are we in advance of the results of forty or fifty years ago? I had quite a little amusement not long since at the expense of one of our very careful practitioners at one of our society meetings. He had been speaking on the subject of childbed fever and the number of cases that had fallen to his lot and his success with his antiseptic methods. By the side of me sat an old-timer from off the hills who, during a long number of years, had attended all the women in childbed in his large ride. I asked him how many cases he had had. Not more than two or three. I then held up his hand for inspection. It showed the marks of his farm work, the care of his horses, deep lines marked by brown streaks, and finger nails that looked as if he did not even possess a jackknife, much less a manicure set. There was a laugh, to be sure, for all knew him and that his practice had been large. Notwithstanding this I am a believer in cleanliness.

After a thorough knowledge of anatomy, physiology, the study of disease, etc., I think a student should not be allowed to go out to practice until he had shown a proficiency in the art (shall I say the science?) of diagnosis. One case will illustrate what I mean. A man in our town was taken sick last winter and is not well yet. Three excellent practitioners have given opinions in his case, one of malaria, one of gout, and one of neurasthænia, while his wife says "it's all bile,' and he says he has a sore stomach. In such a case men might differ, yet I think given the same set of symptoms, they should not.

Were it not that I have consideration for the time of a busy man I might pursue this and kindred subjects further.

Yours very truly,

Researches Concerning Leprosy. By V. Klugmuller and K. Weber. (*Dtsch. Med. Wochenschrift*, 1897, No. 8. These writers claim to have demonstrated positively in a case of leprosy which exhibited a maculated exanthem and anesthetic disturbances, lepra-bacilli in the blood and in artificially produced blisters and even in the perspiration. In the blood and in the blisters the bacilli lie either singly or in groups—in the latter case always three or four bacilli lying parallel next to one another. The ends of these bacilli, which are either straight or slightly curved, appear to be rounded or slightly knob-like. When applying the Gram method a resolution into Coccothrix threads takes place, but when using the Ziehl method this only takes place with a few bacilli. In those preparations of skin stained for determination of bacilli the following condition is noticed: the infiltrated parts are filled by many bacilli which lie mostly in groups resembling sheafs next to one another, usually parallel; only a few lie separately by themselves; almost all of them are enclosed in the cells and by the differential staining are shown up clearly, appearing somewhat smaller than in the free preparations; when using Ziehl's method here many bacilli are arranged in cocco-thrix threads; in the papillary strata the number of bacilli becomes less and less until close under the Stratum Malpighi; in the hair papillæ they are still numerous, and in the hair root sheaths they are still present and appear to crowd forward to the hair shaft. It is clear therefore that the bacilli can leave the body in the epidermal desquamations, in the perspiration and with the blood. As now the question of the contagiousness of leprosy is still subjudice, it seems advisible to be cautious in approaching lepers notwithstanding the possible death of the bacilli in the desquamations.

Nose-Breathing a Protection Against Microbes.—The desirability of inspiring air through the nostrils only is further emphasized by the results obtained by Drs. St. Clair Thomson and Hewlett. They had previously shown that the mucous membrane of the healthy nose only exceptionally shows any micro-organisms whatsoever, the interior of the great majority of normal nasal cavities being perfectly aseptic. They now find that nasal mucus is capable of exerting an inhibitory action on the growth of micro-organisms, though they have not been able to obtain any proof that it possesses bactericidal properties.

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"We are never tired so long as we can see far enough."
—EMERSON.

NATIONAL HEALTH DEPARTMENT.

IT is an axiom that the surest way to prevent trouble of any kind is always to be prepared to meet it at the onset, and being fully prepared for any emergency however great or light its strength, however slight or difficult its complications, to make the first blow tell with overwhelming effect. The State recognizes this fact in its citizen soldiery, where every man is trained to the use of arms and is taught the elementary principles of war. The money spent on our coast defenses and on our battle ships, as complete as skill and science can make them, is money wisely spent. The machinery is always ready, and trained hands ready also, to obey without the slightest hesitation the orders of officers thoroughly at home in every detail of their profession. It often only requires making show of power to accomplish the desired result, but when more is needed it is ready at the word of command. If it is of so much importance to be always ready in the defense of our country and the protection of our citizens, how much more important is the protection of the lives and health of our citizens from epidemics of disease which annually sweep away with the black wing of death thousands on thousands of human beings and untold millions of money. Is there no remedy for this waste of life? Is there no plan which our statesmen can devise not only to keep out disease, but to establish health organizations throughout the country which will prevent the constant recurrence of diseases which are now, in one part of the country or the other, always with us?

States rights once kindled up the flames of a civil war in our midst unparalleled in the history of the world for its magnitude. Hundreds of thousands were pitted against each other on the battle field and the cemeteries of soldiers who have gone down before the bullet or the lance of death are scattered all over the land. Though defeated on the battle field States rights still lives and makes itself heard, not always for good, in the councils of the nation at Washington. It is not long since a bill looking to the establishment of a Health Bureau in the Treasury Department, including in its work not alone the coast towns keeping out the pestilence, but the whole interior, preventing the spread of epidemics and promptly stamping out infection wherever it might be found, was defeated by Southern votes on the ground of its interfering with States rights. Local and State boards, they claimed, were quite sufficient to meet every emergency. The history of the last epidemic along the Gulf coast and the Mississippi River is a sad comment upon these boastful assertions. Dr. Drake, chief surgeon of the Southern Railway, says: "Illustrations of confusion and conflict of sanitary and quarantine regulations during the recent epidemic were to be found everywhere in the territory involved. Unreasonable quarantine restrictions were imposed; one State quarantined against another State, and one town against another town; one or two small towns in Mississippi quarantined against the world. Travel was interfered with or suspended; commerce was paralyzed throughout Alabama, Mississippi, Louisiana and Texas, and hampered contiguous States, while the movement of railway trains in these States was forbidden or limited. The United States mails were stopped and more than once destroyed by local authorities. The requirements of local and State boards of health for disinfection were in many instances as absurd as incompatible with each other. The loss to the country must be estimated by millions of dollars. The South was on the threshold of prosperity; crops were abundant in yield; manufactories were opening up, and new life and hope were ready to enter. In the presence of this condition a single case of yellow fever was introduced and the disease was allowed to spread, producing a panic among the people, destroying commerce and traffic and affecting injuriously every enterprise in the section. State and municipal authorities found themselves unable to cope with the disease or stamp it out because they lacked experience and the machinery for effective quarantine and for the enforcement of sanitary rules and regulations."

If the bill had been passed the machinery would all have been in working order and directed by a

single head in Washington, in touch by telegraphic wires with every town and city in the civilized world, a constant line of work could have been inaugurated and carried out guided by the most trained scientific thought and experiment, which would at least have the merit of consistency and prompt action. Possibly the South has learned a lesson in the wild follies of local and State boards during the recent epidemic of yellow fever to somewhat change their votes on this question at least from States rights to centralized intelligence and authority. With all due deference to the assembled wisdom in Washington, it seems to us that the question of a national health department looking not alone to the coast line and the keeping out of the foreign diseases of cholera, typhus fever, yellow fever, and bubonic plague, but to the prevention of the 157,000 deaths annually from typhus fever, tuberculosis and diphtheria, is of nearly equal importance to the admission of Hawaii or the idle watching of the conflict between Cuba and Spain.

HOW TO GET BOYS.

THE world, scientific and domestic, is a good deal excited over the boy and girl question, and waiting with intense interest the formula of Dr. Schenck, the great Vienna scientist, how the thing can be done. It seems the question is really solved, but the distinguished scientist hesitates about putting the public in full possession of the facts, but lets them into the secret so far as to assure them that he himself is the father of six boys, all in a row, and that a distinguished archduke of Austria, who had been trying as only an archduke can try for nineteen years, to become the father of a boy, awoke one morning bright and early to find—with the help of the great scientist, whose instruction the archduchess had carefully followed—the boy had arrived. We are not yet in possession of how the thing was done, but we are led to believe that carefully selected nutrition was a most important factor.

Is it possible Dr. Schenck has found out the secret by which the queen bee controls the sex of the offspring? When she wishes to develop a male brood she lays unfertilized eggs. The eggs of a virgin queen and also of workers—which sometimes mysteriously possess the power of egg laying—always develop into males, or drones, as they are called. The fertile queen simply refrains from fertilizing an egg when she wishes to produce a drone.

This new idea of Dr. Schenck may not be more tenable than one which was launched upon the world during the second French Empire, and the following out of which, it is said, gave to France the Prince Imperial. A large stock grower in Swizerland noticed that cows who went to the bull early in the heat were seen to have heifers, while those who went to the bull late in the heat had bull calves. To test the matter he selected twenty cows and sent them to the bull in the first stage of the heat and the result was twenty heifers. He also selected two cows and sent them to the bull near the termination of the heat and two bull calves was the result. From these facts he formulated the theory that a male could only come from a fully ripened ovum, say after the fifth or sixth day from the termination of the menses, while previous to that time and for two or three days before the menses the result would be a female. In many years' observation we have noticed while there were very many exceptions to this rule, still it seemed that a correct solution of the mystery was somewhere along this line. Male and female children being born at the same birth would upset either theory as a whole, unless it could show that each conception was at a different date. The whole question seems to be but of slight importance and if solved might be productive of more harm than good.

PYLORECTOMY FOR CARCINOMA.

EXTIRPATION of the carcinoma pylori (unlike the early removal of carcinoma of the breast) is regarded by most surgeons as a very hazardous procedure, for the reason, mainly, that the small nodule on the pylorus, with which the disease commences, is not visible, causes no perceptible symptoms, and therefore will not be diagnosticated. Dr. Carl Beck, however, writing in the *Clinical Recorder*, July, 1897, points out that, in the greater number of cases, there is a period when the morbid process, though extending over a considerable portion, or even the whole, of the pylorus, is still confined to the pylorus alone. In these cases a diagnosis can always be made; and pylorectomy, if done under proper precautions, yields a favorable prognosis. Early diagnosis, therefore, is essential to success. The most important symptom is the existence of a palpable tumor in the pyloric region. This in doubtful cases can often be outlined when the abdominal walls are thoroughly relaxed under anesthesia, or the same object may be attained by exposure to the Roentgen rays. Pylorectomy should only be performed after the most thorough preparations, including the most minute aseptic precautions. As a means of obtaining approximation, Dr. Beck is not in favor of the Murphy button. Nothing, he thinks, is securer than a simple continuous suture, properly applied. For the suture material he uses the thinnest size of

formalin catgut. If all the points dwelt upon are carefully observed, "the appalling mortality of this operation will soon become very much smaller." It is declared preferable to gastroenterostomy even in more advanced cases, "because a patient in such a state has nothing to lose, and it is better to subject him to a great risk by removing the diseased area entirely, than to give him one or two months more by choosing a palliative operation, the immediate chances of which may, perhaps, be slightly less dangerous. Kocher, who has the reputation of being a very radical operator, and who does not hesitate to resect the whole transverse colon, if necessary, reports recently that his mortality rate of pylorectomy has fallen to 20 per cent." In conclusion, a case is related to show how quickly recovery takes place after pylorectomy, if the diagnosis is made early. The patient was presented cured to a society of physicians, thirteen days after the operation.

SURGERY OF THE LUNG.

RECENT reports on the above subject from our transatlantic colleagues, though less sensational than Schlatter's achievement in gastrectomy, are equally interesting and of even greater clinical significance. No one who reads the remarkable papers of Tuffier, of Paris, and Coromilas, of Calajata, Greece, presented to the last International Medical Congress, can help agreeing with the *American Journal of Surgery and Gynecology*, when it declares that "in this department of operation America is far behind Europe." These experimental operations are frequently performed, and interest in the result is intense and widespread; here practically little is being done. "There the leaders are claiming that surgical interference in pulmonary affections—even in far-advanced tuberculosis—is perfectly justifiable; here, apparently overwhelmed by the difficulties and discouraged by a few disastrous results thoracic surgery is dropping almost to the point of insignificance. That the Europeans are right and Americans wrong in this instance seems very plain from the utterances of that conservative operator, Prof. William MacEwan, of Glasgow, who in the discussion of these papers remarks that with regard to tuberculous cavities, personal experience had taught him the following methods of treatment for varying circumstances: In small tuberculous cavities it is sufficient to resect three or four ribs, and allow the cavities to collapse. Large cavities should be freely incised, emptied and drained. Very large cavities should be thoroughly scraped and packed with iodoform gauze. The improvement noted after such procedures has often been immediate and striking. The general condition improved, and diseased foci in the other lung were gradually shut off. Such improvement has even been observed to follow in cases in which disintegration of the operated lung took place."

Prof. Gates must hurry up with his promised therapeutic revelation, or the surgeons will "get there" first!

PREVENTION OF GLAUCOMA.

THE etiology of glaucoma is still disputed, but Schoen, the new professor of ophthalmology at Leipsic, asserts (*Wien. Klin. Rundsch.*, Nos. 26 to 31, 1897; *Am. Jour. of Surg. and Gyn.*) that no one is obliged to lose his sight from this cause. It can always be prevented if the eyes are seen in time by an expert and his warnings heeded, as the invariable cause is excessive strain in the effort of accommodation, which, of course, increases with age. The particulars of the last one hundred and forty cases he has treated are: Forty-eight per cent. hypermetropic; not one had possessed a distance lens. Astigmatism was present in 33 per cent.; in none had the astigmatism been corrected. In 20 per cent. there were no glasses, or they had been utterly inadequate. Nearly twice as many cases of glaucoma occur among women as in men, the former shrinking from wearing glasses until too late. While the excessive strain above mentioned produces anatomic changes which lead directly to glaucoma in time, yet any constitutional morbid tendency, any weakening or depressing cause, violent coughing, night watching, etc., may hasten its appearance.

ETHER AS AN ANESTHETIC IN LABOR.

AT the Sixth Congress of Russian Physicians, Dr. Bakoemsky related his experience with fifty-three women, in normal labor, to whom he administered anesthetics. To forty-five he gave ether, and to eight chloroform. The investigations carried on partly by the aid of the tokodynamometer, and partly by other instruments of precision, showed that during the administration of ether the pulse and the respiration remained almost the same, and the contractile force of the uterus was increased; the duration of labor was shorter; in no instance was there albumin in the urine; the involution of the uterus seemed to progress more rapidly; in the new-born icterus was more rare; they lost less in weight during the first week. The experience with chloroform was not quite so favorable, as it somewhat slows the progress of labor. In conclusion, the author says that in ether we possess an ideal remedy to abol-

ish the suffering in labor, and we should employ it much more frequently than we do. He is surprised that this agent is making such slow headway among physicians.

DOES ELECTRO-PHYSIOLOGY AND ELECTRO-CHEMISTRY SOLVE THE PROBLEM AND FURNISH A ATIONAL TREATMENT FOR THE CURE OF TUBERCULOSIS?

ALL kinds of pitched battles have been waged in vain against that ravaging malady known as tuberculosis. Some of them are based on scientific bases and others on speculative inferences. In this issue of THE TIMES appears a communication which was submitted by invitation to J. Mount Bleyer, M.D., F. R. A. M. S., LL. D., of this city, from the committee of the International Medical Congress, which held its meeting at Moscow, Russia, August, 1897. From what its author and investigator says along the lines laid down by him, it seems to all rational reasoning a most scientific and sound exposition on true physiological principles. He bases his investigations on the fact that the blood is the true nourisher of the entire system, and holds in suspension all vital principles to carry on its physiological functions, and in health must always remain in as normal a condition as possible. In tuberculosis, a known constitutional disease, the system is invaded already early in the malady through the circulation by certain poisonous substances, which are so complex in their nature that they even defy chemical analysis (though there are some disputed points in connection with these essential tubercular toxins, existing in the blood). These so-called toxins bring about intoxications which, according to the many methods of treatment directed against this wholesale poisoning, proved to be failures.

Electrolysis is a positive scientific fact; electrochemistry and electro-physiology teach us that all complex bodies can be resolved into their elementary states. Why not, then, its specific action on the dead tissues in the lungs and poisonous material floating in the blood?

Dr. Bleyer has been for a number of years struggling experimentally with several interesting and worthy electro-physiological and electrochemical problems directed towards the specific action on tuberculosis, as the underlying principles therein are to attain results not possible to be gained by any other known method. He has experimentally investigated the influence of the galvanic current in promoting the formation of ozone in the blood, and he expresses his belief in the fundamental importance of animal electricity in respect to the chemical action on living organisms.

In his communication, after giving an interesting resume of our knowledge of the nature of ozone and its occurrence in the blood, and discussing generally the physiological and chemical factors bearing upon his investigation, he relates the steps taken by himself and the results attained by his inquiry. In order that the tests for ozone might be applied "in the open"—that is, in the free air of the laboratory, rather than in Schmitt's balloon—the inquiry was not undertaken until it was satisfactorily proved that ozone and nitrous acid, the presence of which would have invalidated his conclusion, were absent, or only present in a negligible quantity. The blood selected for examination was taken from the carotid arteries of healthy rabbits. The blood serum, as well as the fibrinous clot, gave well-marked ozone reactions, and the latter, owing to the entangled red corpuscles, more distinctly than the former. A galvanic current, with specially arranged mechanical contrivances of ten volts and fifteen mil-amperes sent through the fibrinated blood, notably increased the amount of ozone, although an exact quantitative test could not be well ascertained, the investigator approximately determined that the amount of ozone, after electrization, was increased about two and one-half times. So much for his results obtained from extravasated blood, a current of a strength of forty mil-amperes was then passed through the body of a healthy rabbit for five minutes, and blood from the carotid arteries tested for ozone The investigator satisfied himself that the reactions indicated a considerable increase in the quantity of ozone over that obtained from normal blood. From this result it is concluded that the polarizing action of animal electricity has an important influence *in corpore* in promoting the evolution of ozone. Some most interesting remarks are made upon animal electricity which he is disposed to regard as "the factor in all the processes of change of chemical action, or otherwise, within the living body." In concluding his paper he says: My theory is that ozone is generated in the blood, but am aware that it cannot exist there for any length of time in a free state, but that the molecules as formed O_3, are readily transformed into $H_2 O_4$, which would coagulate the albuminous matters and partly with the oxyhæmoglobin forming probably a compound which the author provisionally desires to call *peroxyhæmoglobin.* From the many tests already made he thinks that the electric current, as it passes through the blood, decomposes the chlorides (which are normal constituents) and forms hypochlorites, or some highly oxidized compounds of chlorine. Careful as were the methods adopted

by this investigator, and interesting as are the conclusions which he considers himself to have drawn, still his position is not entirely unimpregnable from the chemical standpoint. Nevertheless, we regard his contribution as a valuable addition to our knowledge of a most important subject.

A CRAZY WORLD.

AN English statistician, basing his conclusions upon the average increase of insanity during the past forty years, has reached the conclusion that by the year 2301 there will be no further use for insane asylums, as there will not be sane persons enough to lock up the crazy ones. The old Quaker was still more of a pessimist when in a confidential mood he said to his wife: "Bettie, the whole world is off its balance, but thee and me; and now I look a little more closely, thee seems a little peculiar, too." It was a gratification to the old man that there was at least one sane man in the world.

"BE SURE YOU ARE RIGHT THEN GO AHEAD" was a proverb attributed to the Hon. David Crocket, of Congressional fame, but it is certainly worthy of ranking among the best proverbs ever written by Solomon. If Dr. Benson, of Chicago, had recognized the truth of this proverb he would have saved himself from the great mental strain of writing several columns in the Chicago papers in refutation of an idea which had never had any existence except in the brain of the writer. In the review of an article which appeared in the December issue of THE MEDICAL TIMES by Prof. Elmer Gates, of Washington, Dr. Benson attributes to Prof. Gates a statement that "he cured immoralities by removing the diseased brain cells with the knife." As Prof. Gates never suggested such an idea, and as no such deduction could possibly be drawn from anything he has ever written, and as Dr. Benson, it is supposed, means to be fair and truthful, the door is wide open to a thoroughly scientific psychological investigation, which we trust Prof. Gates will take up in some leisure hour, how it is that in repeating what we honestly believe to be thoughts of others, we formulate an unconscious cerebration of our own, which never had any existence but in our own brain cells, and then, with perfectly healthy organs of logic proceed to slay what is really our own child under the supposition that it is of alien birth.

The article of Prof. Gates in our December issue, which has called forth such wide attention and thoughtful comment throughout the world of science and literature, will be continued in our March issue.

SOME of the aristocratic crumbs which fall from England's royal table, we notice, are dropping into the mouths of men of our profession:

The British Institute of Public Health will be styled in future the Royal Institute of Public Health, and Queen Victoria has accepted the office of patron.

The honor of Knighthood has just been conferred by Queen Victoria on Dr. John Struthers, late president of the Royal College of Surgeons of Edinburgh, and Dr. John Hatty Tuke, president of the Royal College of Physicians of Edinburgh. Professor Gardiner, dean of the Faculty of Medicine, Glasgow University, has been promoted to be Knight Commander of the Order of the Bath (K.C.B.), and Professor D'Arcy Thompson, British delegate at the recent conference on the Behring Sea Fisheries, has been appointed a Companion of the same order (C.B.).

WE learn from the Crisset that work has been commenced on the building for the New York Medical College and Hospital for Women, on the north side of One Hundred and First street, between Manhattan avenue and Central Park West, and will be ready for occupancy before the close of the present term. The building will be three stories high and a basement, which will be utilized for dispensary purposes. We congratulate the college upon the energy they have shown in establishing for themselves a home so well fitted for carrying on the work of instruction. The opening of the Randall's Island Hospital to women physicians for positions on the house staff is a step in the right direction. We are positive under the new dispensation the death rate in the children's hospital will be materially lessened. In the new staff we notice the name of Dr. Buckley, the daughter of the distinguished specialist in skin diseases, who himself contributes his ripe experience and great skill once a week to a clinic in the Island hospital. We hope at no distant day the Randall's Island Hospital will not only cease to be a reproach to the philanthropist but a source of pride to the city.

TETANUS.—At the annual meeting of the New York State Medical Association Dr. Frederick S. Dennis, of this city, read an interesting paper on "Tetanus," an abstract of which we clip from the Medical Review of Reviews. He stated that tetanus was an infectious disease, caused by the presence of a bacillus discovered by Nicolani in 1884. There must be a wound or abrasion through which the germ gains entrance, although one case has been reported in which

there was no abrasion of any kind. The germ is anacrobic. The incubation period may be hours, days or weeks, according to the amount of poison introduced and the susceptibility of the patient. The toxin of tetanus is most virulent; it has been estimated that one-three-hundredth of a grain will kill a human being.

The toxin of tetanus could be obtained the same way as that of diphtherial, but there is this difference: the toxin of tetanus is capable of producing all the phenomena of the disease without the pathogenic presence of the tetanus bacilli.

A sharp distinction should be made between acute and chronic tetanus. A study of the effects of the antitoxin enabled him to fix on the fourteenth day as a point of differentiation between the two varieties of the disease. As a result of his investigation, he stated that the facts at present did not permit him to say that the antitoxin invariably cured tetanus, but they did show that it was a remedy of the greatest value, especially in connection with immunization and prevention.

The antitoxin serum is taken from horses which have been immunized against tetanus by hypodermic injections of the toxines of the bacilli of tetanus. This serum may be obtained from the Board of Health. No animal has ever died from the disease which has been rendered immune by the tetanus antitoxin before inoculation with the disease.

According to Welch the results were better according to the length of the inoculation period, and this remedy was of little value if the period was shorter than ten days or if convulsions had already set in.

Chloroform was a valuable adjuvant, as the lesions were located in the nervous system; the death rate had been reduced 10 per cent. in one series by its use. Chloral, in doses of from 100 to 200 grains daily, was also useful. As the toxines of tetanus are eliminated by the kidneys, free diuresis should be established.

Dr. Dennis said that previous to the introduction of antitoxin the mortality in all cases of tetanus, calculated by Watson, was 50 per cent., as against a mortality with the antitoxin of 34, and added: "And no drug has ever been discovered which would accomplish such a result in this or any other disease." He asserted that improvement is sure to follow as soon as a little more knowledge is obtained from bacteriology. The required dose is another factor which will soon be understood, and this will add greatly to the percentage of recoveries. With more precise knowledge of the bacillus tetanis, and with more information upon the clinical symptoms that foreshadow the disease, and with more light upon the subject of immunization, antitoxin is destined to become a powerful remedy to relieve a disease hitherto most distressing and fatal.

OUR esteemed contemporary, the *Medical Fortnightly*, cordially extends us its kindly congratulations in the following language:

"The December issue of the *Medical Times* of New York marks the quarter of a century existence of this valuable journal. To celebrate this important anniversary an artistic cover page done in silver decorations is presented. We extend congratulations to the *Times*, which has done so much to tear down the bars of sectarianism in medicine and to encourage independence in medical thought. While essentially homœopathic in its teachings, it is nevertheless fearless enough to look over the walls of dogma into the broad field of rational medicine. We predict that when another quarter of a century has elapsed it will find pathy a thing of the past, and the lion and the lamb will be unified in their aims and ambitions, harmoniously striving for the ultimate and only true aim in medicine—the cure of the patient."

We regret that our contemporary has failed to take cognizance of the statement so often repeated, that we are *not* "essentially homœopathic," nor essentially allopathic either, but *medical*, regardless of pathic. We recognize the dual action of drugs, and if that makes us homœopathic it makes us allopathic, too, with the designation of physician only and not sectarian. A little more patience and the sectarians will withdraw their designation, and as it is not now a question of modes of practice—for no one cares about that—pathy will be a thing of the past.

There are cranks both in the profession and out of it, and they will continue to exist, but in medicine let us draw the line at *non*-sectarian designation.

DR. M. GOLDEN MORTIMER, 504 West One Hundred and Forty-sixth street, New York, is preparing a work on coca, in which he will present all that is known of this plant and its action. Dr. Mortimer will be under obligations to the profession for any information it may furnish him on the subject of coca as a therapeutic agent or as food.

DR. ALEXANDER B. BRIGGS thinks the iodide and bromide of strontium will in time, in a great measure, supersede the iodide and bromide of potassium, being equally effective and almost entirely free from those gastric and nervous disturbances which prevent the long administration of the former.

BIBLIOGRAPHICAL.

A Text-Book on Surgery—General, Operative and Mechanical. By John Wyeth, M D. Third Edition. Revised and Enlarged. New York: D. Appleton & Co. 1898.

The original edition of this work was published in 1886 and revised in 1890. Since that date the rapid advances made in every department of surgery has rendered a revision necessary. The author has retained those features which made the previous editions so popular with the busy practitioner for quick and ready reference, with fullness and clearness of information, and has added a large amount of elementary matter especially of interest to the student. The introductory section is devoted to surgical pathology, subdivided into six chapters. Chapters VII. and VIII. are devoted to surgical dressings, sterilization, asepsis, antisepsis and anæsthesia. In Chapters IX. and X. are given hemorrhage, wounds, burns, skin grafting, frostbites, carbuncles, ulcers and gangrene. Bandaging is given in Chapter XI. and amputation in Chapter XII. Chapters XIII. to XV. deal with the lymphatic vessels and glands, arteries, aneurism and ligation of the vessels. The lesions of the bones and joints are given in the two following chapters, and the operations necessary for their correction. The chapters from XVIII. to XXIX. are devoted to vaginal surgery. In the two following chapters deformities and tumors are discussed. The style of the author is clear and scholarly, and the publisher's part of the volume all that could be desired.

Rubáiyát of Doc Sifers.—By James Whitcomb Riley, illustrated by C. M. Relyea. Published by the Century Company. New York. 1897.

Further than the title and introductory verses this is scarcely a parody of the Rubaiyat of the Persian poet, with its beautiful but sad and pessimistic lines, as this is in Riley's well-known style, and tells of the influential, unselfish, self-sacrificing life of the village doctor, spent in the care and service of others. The Century Company have done their part well; it is beautifully illustrated with appropriate pictures and end pieces.

A Clinical Text-Book of Surgical Diagnosis and Treatment for Practitioners and Students of Surgery and Medicine. By J. W. MacDonald, M. D. (Edin.), Professor of the Practice of Surgery and of Clinical Surgery in Hamlin University, Minneapolis, Minn. With 328 illustrations. Philadelphia: W. B Saunders. 1898. Octavo, pp. 798. Cloth, $5 net.

It has been the aim of the author to place in concise form for practical use, from the vast and growing literature of this important subject, the answers to two questions; viz: "What is the disease or injury?" and "What is the proper treatment?" In other words he has tried to make a useful text-book and a ready reference guide.

It goes without saying, that this book is not intended to take the place of the larger works, which go more profoundly into the subject, with its numerous collaterals, but surely a single volume has been prepared which will not only be found useful, but eminently practical for everyday use.

Care has been taken to make the examination in each case so systematic and comprehensive that the young practitioner may avoid errors in diagnosis and be saved from possible contingencies. Our readers will find the text helpful in the diagnosis of difficult cases, and that we think is what is most wanted in a book of this kind.

The illustrations and other physical parts of the work are in Mr. Saunders' best style.

San Palmetto.—Its History, Botany, Chemistry, Pharmacology, Economy, Classical Experience and Therapeutic application. By Edwin M. Hale, M. D. Philadelphia: Boericke & Tafel.

The work is made up mostly of provings and clinical reports of physicians prominent in the ranks of Materia Medica, and gives very excellent suggestions for therapeutic use. In enlarged prostate and cistic troubles the drug stands decidedly high.

Elements of Latin. For students of Medicine and Pharmacy. By George D. Crothers, A. M., M. D., Teacher of Latin and Greek in the St. Joseph (Mo.) High School; formerly Professor of Latin and Greek in the University of Omaha; and Hiram H. Bice, A. M., Instructor in Latin and Greek in the Boys' High School of New York City. 5¼x7½ inches. Pages xii-242. Flexible Cloth, $1.25 net. The F. A. Davis Co., publishers, 1914-16 Cherry street, Philadelphia; 117 West Forty-second street, New York City; 9 Lakeside Building, 218-220 South Clark street, Chicago, Ill.

Outlines of Rural Hygiene. For Physicians, Students, and Sanitarians. By Harvey B. Bashore, M. D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on the Normal Distribution of Chlorine by Prof. Herbert E. Smith, of Yale University. Illustrated with twenty (20) engravings. 5½ x 8 inches. Pages vi-84. Extra Cloth, 75 cents net. The F. A. Davis Co., publishers 1914-16 Cherry street, Philadelphia; 117 West Forty-second street, New York City; 9 Lakeside Building, 218-220 South Clark street, Chicago, Ill.

Hugh Wynne, Free Quaker. Sometime Brevet Lieutenant-Colonel on the Staff of his Excellency General Washington. By S. Weir Mitchell, M. D., LL.D., Harvard and Edinburgh, in two Vols. The Century Co., New York 1897.

This interesting novel is laid, as part of the title indicates, at the time of the War of Independence and its incidents are told in a delightful and absorbing manner, the spirit of the times is well depicted and the characters drawn in a realistic way. The local coloring of the Colonial times is also well done, thus preserving the names and traditions of neighborhoods which might otherwise, in time, be completely lost. We were especially interested in the rather new phase of General Washington's character. The work of the Century Co. has been attractively executed. The cover in the sober gray, with the coat-of-arms of the Penn family, is quite appropriate, as many of the characters and scenes are from Philadelphia.

Archives of the Roentgen Ray. (Formerly Archives of Skiagraphy.) A high-class quarterly devoted to the uses and application of the X-rays. The only organ in which the proceedings of the Roentgen Society are officially reported. Vol. II., No. 2. Price $1 per part. The Rebman Publishing Co., Limited, London. W. B. Saunders, Philadelphia.

A supplement to this issue contains radiography in Marine Zoology, with thirty-six illustrations in fifteen plates. The British Echinodermata.

E. B. Treat & Co. announce the speedy publication of the sixteenth edition of the *International Medical Annual*. The manual for 1898 will contain many special articles of great interest in addition to the regular summaries of the year's work in medicine and surgery, by thirty-eight editors, each contributing to the department with which he is specially identified. Part I. will contain a complete report of new therapeutic agents introduced during the year with clinical indications for their use. Part II. will be devoted to special articles including several of great interest and diagnosis. Part III.—The dictionary of new treatment with a complete index of diseases showing the latest therapeutic recommendations, enriched with numerous illustrations and colored plates.

The American Text-Book of Genito-Urinary and Skin Diseases (including Syphilis) edited by Dr. L. B. Bangs and W. A. Hardaway, will be out shortly, and is said to contain a large number of well-executed illustrations specially prepared for the work.

Mr. W. B. Saunders, of Philadelphia, has issued a bulletin for 1898, which includes all the books published by his house during the year just closed.

Lehmann's Hand Atlases, of which there will be a number issued during the coming year, will contain admirable colored plates, and they will be sold at an extremely low price.

HOSPITAL REPORTS.

METROPOLITAN HOSPITAL.

Service of Dr. Alfred K. Hills. A series of cases treated with Gudes' Pepto-Mangan. Reported by Dr. Doyle, House Physician.

Case I.—A. B., aged 47, domestic; was admitted November 1, 1897, with the diagnosis of chronic rheumatism and chronic nephritis.

There was no family history bearing upon the case, and the menopause was passed nine years ago. First attack of rheumatism three years since, lasting six weeks. Second attack began one week before admission here, and was ushered in by a chill. The pains are of a burning, stinging character especially in muscles of thigh; are worse at night, and the patient is unable to move. Before this attack the patient suffered with cramps and weakness of the lower extremities. Complains of headache, vertigo, and there is slight puffiness about the eyes.

There is no appetite, considerable nausea, and some thirst.

The specific gravity of the urine was 1010, and contained considerable albumin, small granular and large fatty casts, Total solids in 1,000 CC., 23.30. There was also blood. pus and bladder and kidney epithelium present. Pulse 92; temperature, 102: respiration, 26. Examination of blood showed 67 per cent. hæmoglobin, and 3,300,000 corpuscles to a cubic millimetre. After taking pepto-mangan twenty-four days the number of corpuscles have increased to 4,720,000.

Case II.—E. O., aged 37, domestic, married woman; came in with diagnosis of tertiary syphilis. She had suffered much pain from periostitis, had used alcohol to excess, is very weak and debilitated, sleepless and melancholy. Her trouble dates back six years.

Examination of blood showed 59 per cent. hæmoglobin and 4,280,000 corpuscles to a cubic millimetre. After twenty-seven days of pepto-mangan, the number of corpuscles had increased to 4,420,000, and the hæomglobin to 63 per cent.

Case III.—M. D., widow, aged 45, domestic; was admitted October 29, 1897, suffering with acute inflammatory rheumatism.

The patient had used alcohol to excess, was careless in her habits, and exposed herself in wet weather. Has suffered for some time with nausea and vomiting, so that she is very weak and prostrated.

Examination of blood showed about 59 per cent. hæmoglobin and 3,075,000 corpuscles to a cubic millimetre. After taking the preparation twenty-seven days there were 3,880,000 corpuscles and increase of the hæmoglobin to 60 per cent.

The dose in these cases was only a teaspoonful, three times a day, after meals, and no doubt the improvement would have been greater upon a larger dose, say a tablespoonful.

The general improvement in all the cases was satisfactory.

The Thoma Zeiss apparatus and Fleisch's Hæmoglobinometer were used.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

MEDICAL SOCIETY O FTHE HOSPITALS.

The Bacteriology of Rheumatism.—MM. Triboulet and Coyou: After studying many cases of rheumatism to discover the presence of the bacillus of Achalme in the blood of the living subject of rheumatism, these authors have examined successively a rheumatism of fifty-four years not treated; a young woman of nineteen years, not treated; a choreic of thirteen years, affected with transient articular complications, but with fever; a case of thirty-three years, violently attacked, and treated unsuccessfully for three weeks with the salicylate of soda internally. and the salicylate of methyl by local applications, in the course of which grave complications of pleurisy and pericarditis supervened, with profound constitutional effects, and lastly an investigation of the blood of a choreic child of eight years with fever. Five examinations of the blood of these different subjects of rheumatism were made, and in every one, without exception, the authors were able to isolate and cultivate a special micro-organism. a diplococcus identical in every case; and completely different from the bacillus of Achalme. This microbe was twice met with in combination with the bacillus of Achalme, and occurred in cases of rheumatism in which the complications were grave and multiple. In rheumatism, Achalme's bacillus seems to accompany the grave forms, durable, and often mortal, but is it the cause of the morbid entity. the free, acute articular rheumatism? We think not, but the bacillus seems to supervene rather as a contingent agent capable of adding to the complications of a pre-existing rheumatism, and the diplococcus which we have met with is perhaps the microbe of rheumatism, but we cannot yet affirm it positively.

ACADEMY OF MEDICINE.

The Treatment of Fractures by Massage.—M. Labbé: I return to the consideration of the affirmations of M. Lucas-Championniére respecting the treatment of fractures by massage and precocious mobilization. There would be some danger in the application of the literal indications of M. Lucas-Championniére by those who are not as familiar as he is with his own methods. If it be true that for juxta-articular fractures, massage and immediate mobilization aid the normal processes of cure, it does not apply to those located in the long bones, in which it is indispensable to maintain a sufficient length of time for immobilization, and which alone can prevent pseudarthroses.

M. Lucas-Championniére: Pseudarthroses are never the consequences of mobilization. On the contrary, movement united with methodical massage favors the repair of the tissues. This is a doctrinal point. Practically, it is to be regretted that certain fractures cannot be cured by prompt mobilization. In certain cases massage always procures a complete absence of deformity, and at the same time a normal consolidation. The apparatus of Hennequin takes care of the mobilization of the fragments, and maintains the integrity of position of the fractured limb. The question as to knowing if the process of methodical mobilization is simple or difficult of employment may equally be applied to all surgical processes. In fine, every time that an apparatus for immobilization can be replaced by prompt mobilization, united with methodical massage, it should be done. There are very few fractures to which this law is inapplicable. and it is the best method of stimulating the vitality of the osseous tissue, which, like all tissues, is augmented by movement. M. Labbé: I believe that pseudarthroses are due to insufficient immobilization with the interposition of fragments or of soft parts in the callus. They are not produced when reduction is well made under chloroform, but it is necessary that the reduction should be well maintained. As regards the apparatus of Hennequin, he immobilizes more than M. Lucas-Championniére supposes. Extension is so well obtained by this apparatus that it becomes the best of immobilizations. M. Lucas-Championniére: I would state that in the opinion of M. Hennequin himself, his apparatus does not at all prevent mobility of the fragments one upon the other, and that is the reason why it obtains excellent restoration without contraction.

Sphincter Hysterotomy.—M. Defontaine, of Creusot: I suppress deliberately the functions of the uterine sphincter by a section through the whole thickness of the anterior median line of the uterus, reaching up to the cavity of the body, the lips of which cicatrize separately. There results an easy and permanent evacuation of the morbid contents that are so frequently retained by the harmful contraction of the sphincter. Subsequently every ascending infection of the tubes is arrested, as is infection of the ureters and kidneys after cystostomy, and the uterine parietes. distended and thickened, undergo an involution towards the normal condition. This new operation is indicated in chronic metrites from uterine flexions in different retractions of the cervix, in dysmenorrhœa of uterine origin. In blennorrhagic metritis it will prevent the ascending infection of the tubes.

SURGICAL SOCIETY.

Pelvirectal Abscess with Pneumococci.—M. Bazy: The pus of an inferior pelvirectal abscess, with prolongations into the upper pelvirectal space, contained pneumococci. The patient had manifested no anterior affection that could explain the presence of this microbe. The pus was green, thick and not fetid. The cure rapidly ensued after the evacuation of the collection.

Gastro-enterostomy for Simple Ulcers of the Stomach, with Hematemesis or Peritonitis.—M. Tuffier: The processes that surgery opposes to the "ulcus rotundum"—round ulcer—are various, and it is necessary to be eclectic. Each one of them finds its application according to the subject, the form, the extent, depth, duration and the period of evolution of the ulcer. In the operations of gastric surgery just practiced by me there were three cases of simple ulcer clearly marked. One succumbed to the operation, the ulcer having attacked the inferior face of the liver. Two others were cured, and to the putting the organ in repose was due the disappearance of the attending accidents. But it is necessary to understand clearly as to the relative repose of the stomach. From the time that we create an anastomosis between the stomach and the intestine we must not suppose that we drain its cavity, and that aliments pass from the œsophagus into the jejunum without stopping in the stomach. Well-known researches, very precise and numerous, have shown that gastric digestion continues after the anastomosis. The study of gastric digestion, from the triple point of view of chemical action, motion and evacuation, have established: First, that the chemical action varies but little, and according to the nature of the disease; Second, that the delay of the aliments is not shorter than normal; Third, that the motor power resumes its force, according to the primary cause, and the period of surgical intervention. As respects the ulcer, whether the gastro-anastomosis is made above or below the lesion, the result is the same. At the moment that digestion is chemically sufficient and complete, the stomach contracts, and evacuates its contents without difficulty through its neostomy, or new orifice, without contending against a refractory pylorus. All this applies to the simple hemorrhagic ulcer, and not to those curious and well-known hemorrhagic erosions, which kill suddenly by hematemesis, and which are so small that it is difficult, even by autopsy, to detect their presence. Then resection is the only method to be employed.

On Vasothrity or Angiothripsy.—M. Tuffier: It is possible to practise an abdominal or vaginal hysterectomy without the use of forceps or ligature. This fact has been recognized by some surgeons, but I believe that the method will, in all probability, become universal. For it, I employ an angiotribe, the teeth of which are not larger than those of a large forceps, and the pressure developed by it has a power that no apparatus can exercise. Different instruments of this kind were proposed, even before Chassaignac, but there is only one that is comparable to it, the "lamineur" of Doyen. For two months I have tried my apparatus upon vessels of various size, and have obtained perfect hemostasis. I am thoroughly satisfied, and have just pert formed two hysterectomies in my service at "La Pitié," one for an acute pelvic suppuration, the other for prolapsus complicated with fibroma without using ligature or forceps. The pressure exercised by the instrument sufficed for complete hemostasis. I do not doubt that, in view of the dangers and the suffering caused by the permanent forceps, this method will render very great service in vaginal hysterectomy. In the last operation it is sufficient, when the uterus is without the vulva, to use, on each side, two applications of the vasotriteur upon the utero-ovarian ligaments above, and the uterine below, compressing each time with the full force of the instrument, in order to have the two large ligaments under control, the part comprised between the teeth of the vasotriteur thus becomes as thin as a leaf of cigarette paper. The only precaution necessary in the handling of the instrument is to keep it firm and immovable during its constriction, so as not to lacerate below the point of the constriction. I believe it to be equally applicable to the hemostasis of any artery, in cases in which the application of the ligature is difficult. The mechanism of vascular obliteration is not yet fully comprehended. I have practised vasothrity upon many large arteries, and in all cases the services rendered by the vasotriteur induce me to advise its employment. Perhaps other indications will be found for its use.

Oblique Osteotomy of the Upper Extremity of the Femur.—M. Nélaton presented a young man of twenty years, upon whom he had performed an oblique osteotomy, followed by continued extension according to the rules established by M. Hennequin, for a callus, consecutive upon a sub trochanterian fracture, which prevented walking. Thirty days have elapsed since the operation, and the patient already walks with a slight contraction. In this case extension was particularly necessary, because, after the osteotomy, the reduction was not made, and the contraction, which was about 9 centimetres, persisted. MM. Lucas-Championniére, Terrier, Potherat, Mechaux, cited cases showing the excellence of results from oblique sub-trochanterian osteotomy.

Radiography Applied to the Searching for Foreign Bodies in the orbit.—M. Boucheron: A man received a grain of lead in the right eye, and in consequence of the accident there was an effusion of blood in the anterior chamber. This was quickly absorbed, and sight returned to its previous condition. After a lapse of time visual troubles occurred in the wounded eye, soon followed by the same in the other eye. Ophthalmoscopic investigation discovered a white atrophy of the optic nerve, complete in the right and manifest in the left eye. In these conditions it became interesting to know if the grain of lead was included in the wounded eye. Radiography, applied by M. Radiguet, proved that the projectile rested upon the lower wall of the orbit, entering at the sclero-corneal border; it had passed between the crystalline lens and the adjacent parts and had traversed to the lower portion of the eye. Here arises a question of legal medicine. Is atrophy of the optic nerve a consequence of a wound of the eye? M. Galtier, Nimes, had seen a case of a huntsman who was wounded in the eye by a grain of lead that had ricochetted. The cornea was cut transversely, and the lens formed a grayish pulp. Panophthalmia ensued, and the other eye presented sympathetic troubles. The situation became grave, and the question of enucleation was considered, when radiography showed the presence of a foreign body in the eye above the ciliary body. Then sub-conjunctival injections of sublimate were applied, and under their influence the inflammatory symptoms subsided, and also the sympathetic phenomena. M. Morax thought that the facts as stated by M. Boucheron did not warrant the conclusion that atrophy of the optic nerve is the consequence of traumatism. M. Gorecki, on the contrary, considered that there was a corelation between them. A foreign body is harmful, not only by reason of its presence, but by the traumatism and the reaction which it produces in the organism. In this particular case, it is not only the perforation of the eye by a grain of lead that has to be considered, but the after effects produced by it. M. Boucheron did not share in this opinion, and while at "La Salpetriere" no sign of tabes had been discovered in the patient, yet it was to that disease he attributed the atrophy because of its ophthalmoscopic appearance. In this case the optic atrophy was a phenomenon of the beginning of tabes, and it was simply the coincidence of locomotor ataxia with a wound of the eye.

BERLIN SOCIETY OF MEDICINE.

Kinesipathy Applied to Affections of Nervous System—M. Goldscheider: In the ataxic, who cannot leave their bed, movements of flexion and extension of the limbs should be made, which the patient can afterward perform with the eyes closed. With these should be associated hydrotherapy, electrotherapy, but in some the pain prevents the continuance of the treatment. In the ataxic who can still walk, execute active movements with or without apparatus, but without fatigue. If the articulations are too much relaxed to permit active movements, they should be supported by appropriate bandages. This treatment gives equally good results in chorea, and in the trembling of sclerosis, in writer's cramp, athetosis, paralysis, paresis, muscular atrophy, and even in sciatic neuralgia and arthralgia of traumatic origin. It is contra-indicated in consecutive spasmodic contractions from cerebral and spinal lesions. M. Kann: In the hemiplegic this treatment should be instituted sooner than in these cases. To obtain a good result it should be begun less than a month after an attack of apoplexy.

Treatment of Obstinate Neuralgiæ by Osmic Acid.—M. Frank: I inject into the nervous trunk itself one gramme of an aqueous solution of the acid, 1 to 1,500. In 1882 Von Winawater advised these injections to disperse tumors; later Neuber recommended them as antineuralgic, and Eulenburg published twenty-nine observations in which this treatment was used. Since then it has gradually been forgotten. The facts I have published prove that it should be resorted to, at least in supra-orbital neuralgia, before appealing to surgery. 'Tis true it failed in a case of rebellious neuralgia, but the difficulty of reaching the nerve was perhaps the cause of failure. A better result would undoubtedly be obtained by exposing the nerve and making

the injection into the neurilemma. It is necessary always to use for the injections an aqueous solution of osmic acid, and not the glycerinated solution which has been recommended. This last is difficult to inject; it diffuses itself slowly in the tissues, and causes more intense pain than the aqueous solution.

Surgical Intervention in cases of Coxalgia.—M. F. Konig: Suppuration, and the existence of a sequestrum, necessitate surgical interference, especially if by immobilization, the abscess does not recede, and if an iodoform injection does not succeed. In case of a sequestrum, there should be no hesitation in operating, as sequestra become encysted. Caseous abscesses often form around the foreign bodies, and ablation of the diseased bone is the surest means of cure.

SOCIETY OF SYPHILIGRAPHY AND DERMATOLOGY OF ST. PETERSBURG.

Blennorrhagic Ureteropyelitis.—M. Aboutkoff: In ninety-eight cases of acute blennorrhagia or subacute, I have met with ureteropyelitis eleven times. This complication is denied or considered very exceptional. The method I have employed to recognize it is as follows: I take cases in which there is no prostatis nor bladder complication, wash out the bladder with borated water, wait five or ten minutes, make the patient pass water, and then make a microscopic examination of the urine, searching for albumin, cylinders and gonococci. The urine is always turbid, never contains cylinders, but epithelium and gonococci in small numbers. The principal symptoms of this complication are polyuria, pains in the renal region, turbid and purulent urine, and the presence of gonococci. The appearance of epithelium is not characteristic, for it may as well proceed from the bladder as the kidney. Blennorrhagic nephritis sometimes succeeds to blennorrhagia without the occurrence of ureteropyelitis.

MOSCOW SOCIETY OF PEDIATRY.

Gastro-enterostomy in a Child of Seven Years.—M. Krassnubaeff exhibited a child of seven years in whom he had practised the above operation for cicatricial contraction of the pylorus. The pylorus was encircled by a ring through which the little finger could scarcely pass; the stomach and pylorus were depressed and adherent to the posterior part of the abdomen.

Treatment of Whooping Cough by Phenocol.—M. Polienktoff: M. Uargus, of Barcelona, first tried phenocol in 1895, and derived from it very good results. I have used it, too, in seven children who were attacked with whooping cough during measles. In all there was marked and rapid improvement. The remedy diminishes the frequency of the attacks and their intensity; the nocturnal attacks especially were less frequent, and the total duration of the disease notably lessened. The dose administered, from one to two grammes daily. M. Fabistocherski has had like success in forty cases at the Hospital "St. Olga." Without being a specific remedy, phenocol offers real advantages in whooping cough, and should always be resorted to when other remedies, particularly morphine, are contraindicated, especially in young children, in whom the disease is often dangerous. There are no inconveniences attending its use.

Treatment of Diphtheria by Solutions of Myrrh.—M. Stroll reports sixty-nine cases of diphtheria, two croupy, treated exclusively with a solution of myrrh, and all cured: Formula: Tinct. myrrh, 4 grammes; glycerine, 8 grammes; distilled water, 200 grammes. Solution given to children day and night; during the day, every hour; in grave cases, every half hour; during the night, every two hours, every hour in grave cases. One teaspoonful for child of two years; two from two to six years. When the false membranes diminish, lessen the dose; no danger in the use of remedy, children bear it well. *M. Stroll rejects local treatment and serotherapy absolutely.* J. A. C.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Treatment of Burns and Scalds with Picric Acid—In the *St. Louis Medical Review* of February 20, 1897 (*Canada Med. Record*), Thompson contributes a practical article on this subject. He begins by pointing out that picric acid has been recommended by French surgeons as the nearest approach to an ideal treatment of burns. In his official capacity as dispensary physician of the St. Louis Health Department, the writer has had large opportunities to thoroughly test the value of the drug. His experience consists of the study of some sixty cases—all emergency ones—and they presented a great variation as to cause and condition. In all cases picric acid was used as a local treatment, and it was so agreeable to the patient and so successful from a scientific standpoint that there was no desire to return to the older methods.

The properties of picric acid are as follows: It is a local anesthetic, it coagulates albumen, is astringent and antiseptic. It can be applied in almost any manner; the dry powder can be sprinkled on, or gauge compresses saturated with a solution of the acid can be applied; or, if the burn is universal, the body may be immersed in a bath of the solution. For minor burns we find it very satisfactory to allow the patient to procure some of the acid and bathe the surface every few hours or as often as pain returns. No toxic effects come from the absorption of the drug, even if it colors the urine a deep yellow.

The acid is not very soluble in water, two drachms saturating a quart. The solubility can be increased by the addition of one ounce of alcohol to a quart of water. For emergency work any amount of the acid can be added to the water, which being stirred is ready for use. The first and most gratifying effect of the acid is the almost instantaneous relief of pain, even in cases where the epidermis has peeled off, exposing the papillæ to the air. In most cases the pain will be entirely eliminated, and in all it will be reduced to a minor symptom. A remarkable fact is that the acid will prevent blistering if applied soon enough, and it will limit the blistering if already begun. If the epidermis is disorganized by the heat, the acid will fix it in a firm coagulated layer, and healing will take place, as it were, under a scar—always a desirable method of tissue repair.

Treatment of Prostatic Hypertrophy by the Galvano-Cautery.—Bottini (*Arch. f. Klin. Chir*, 1897, Band Liv., Heft 1; *Am. Jour. of the Med. Sci.*) describes a new method of treating the diuresis accompanying the enlarged prostate, which he has perfected, and which has produced both in his own hands and in the hands of other eminent surgeons results that are all that could be desired.

He describes the instruments, which he has had constructed according to his own designs, and the technique of the operation, illustrating his subject by the report of three clinical observations.

He claims for the operation the following points:

1. The unmistakable efficiency of the operation—a patient who had not urinated for years passing his urine of himself a few hours after the operation.

2. The harmlessness of the operation even in patients over eighty years of age with foul urine.

3. The permanency of the cure, no case having as yet been known to recur.

4. No post-operative bad effect or effect upon the morale of the patient.

5. The operation is painless, and can be done without anesthesia.

Does Antitoxin Act as an Immunizing Agent in Man? M. Kassowitz (*Wien. Med. Woch.*, 1896, XLVI, 1020; *Pediatrics*) critically studied the literature bearing on this subject. The result was an overwhelming judgment against this method of immunization by serum, and is contained in the following resume:

(1) An immunity against diphtheritic infection cannot be produced in the human subject either by a severe attack of diphtheria, or by the injection under the skin of a large quantity of "units of immunization."

(2) After large or small doses of immunizing scum, diphtheria is just as frequently contracted as without it.

(3) The illness of the "immunized" individual may occur at any time, from a few days after to a few weeks or months after treatment.

(4) The illness from diphtheria, in individuals who have been immunized, is frequently very severe, and has resulted in death in many cases in spite of repeated injections of large doses of the serum.

(5) The attempt to produce immunity to diphtheria in the human subject by serum injections must, for the present at least, be considered a failure.

He believed that every conscientious physician should hesitate and consider whether he had the right to subject a healthy child, on account of a theoretical belief which in no wise had been confirmed by facts, to those disturbances which every one acknowledged frequently occur after serum injections. Again, the possibility of causing death, which is asserted by many observers, should not be overlooked.

RETROSPECTIVE DIETETICS.

Sanose is a new albumen preparation which contains 80 per cent. casein, and 20 per cent. albumose, which would seem to be a desirable combination, and similar to human milk in composition and appearance. It is a white powder, odorless and tasteless, forming an emulsion when stirred with water, and may be administered with any vehicle. The price is said to be satisfactory, which is a desideration sometimes.

The Value of an Exclusively Meat Diet in Certain Cases of Chronic Gout.—At a recent meeting of the Medical Society of London, Armstrong (*Brit. Med. Journal*, May 1, 1897) related that during the last few years he had given trial in various cases of gouty arthritis and recurrent renal calculi, to a method of treatment based on the prolonged administration of only red meat and hot water. Very marked improvement had resulted, which had persisted in spite of a gradual return to an ordinary dietary. His own observations on auto-intoxication in relation to the causation of gout and rheumatoid arthritis, had led him to believe that it is the complex chemical changes brought about by the admixture of red meats with carbohydrates and sugar that causes the excessive formation of uric acid. His plan is to give the patient a daily allowance of from one to four pounds of lean beef steak, minced and cooked in various ways, the patient drinking from one to five pints of hot water, and avoiding all starchy, saccharin, and fermentative articles of food. The effects observed are rapid diminution in abdominal girth, loss of fat and flabby tissue, increase in the quantity, and ultimate disappearance of urates, alkaloids and toxins from the urine. The joint-swelling greatly diminished, the aching and pain became much lessened and the mobility of the joints was considerably increased. The capacity for work, mental and bodily, was enhanced and the symptoms of mal-digestion and disassimilation disappeared. This treatment is indicated in obstinate chronic gouty arthritis, in recurrent uric acid calculi, in frequent and intractable migraine, and in cases of persistent gouty dyspepsia. It has proved especially useful in the presence of symptoms of amylaceous and intestinal dyspepsia and of excessive formation of hydrogen sulphid, urates, indican, skatol, creosol and other toxins. The carbohydrates, by their affinity for oxygen, interfere with the due oxidation of the tissues. Under the plan of treatment proposed, digestion is more complete and the processes of fermentation and putrefaction are kept within narrower limits, oxidation being more perfect and less waste being consequently left in the system. Whatever poisonous matters remain in the system are readily eliminated by the taking of the hot water, which also flushes the stomach, liver and kidneys. The treatment is irksome and trying, and must of necessity be carried out with great strictness; therefore its use should be confined to the more difficult cases. It should be prescribed but rarely and then only under the most careful supervision in cases in which the heart or kidneys are diseased. Used with due care it is a most efficient and brilliant addition to therapeutic measures. In the discussion Haig admitted that certain cases of gout are benefited by a meat diet, as a result of its stimulating qualities. When it fails to act as a stimulant it is likely to prove dangerous.

Changes in Milk by Boiling.—Kerr, in the *British Medical Journal* says: There are reasons for supposing that when fresh milk is ingested the living cells are at once absorbed without any process of digestion, and enter the blood-stream and are utilized in building up the tissues. The casein of the milk is digested in the usual way of other albuminoids and absorbed as peptone. There is also absorption of serum albumen by osmosis.

The chemical result of boiling milk is to kill all the living cells and to coagulate all the albuminoid constituents. Milk after boiling is thicker than it was before. The physiological results are, that all the constituents of the milk must be digested before it can be absorbed into the system; therefore there is a distinct loss of utility in the milk, because the living cells of milk do not enter into the circulation direct as living protoplasm, and build up the tissues direct, as they do in fresh unboiled milk.

In practice it has been noticed that there is a very distinctly appreciable lowered vitality in infants which are fed on boiled milk. The process of absorption is more delayed, and the quantity of milk required is distinctly larger for the same amount of growth and nourishment of the child than is the case when fresh milk is used.

Dietetic Treatment of Arteriosclerosis.—A new treatment for angina and other forms of arteriosclerosis has recently been brought forward by Professor Theodore Rumpf, of Hamburg (*Berl. Klin. Woch.*, March 29, April 5, 1897).

Professor Rumpf finds that a diet poor in lime provokes an abundant elimination of lime, and he recommends the following diet for cases of cardiac atheroma and angina pectoris:

250	grammes of	meat	containing	0.75	per cent. lime.
100	"	" bread	"	0 15	"
100	"	" fish	"	0 04	"
100	"	" potatoes	"	0 03	"
100	"	" apples	"	0.02	"

This menu, which contains 93 grammes of albumen, 14 grammes of fat, and 93 grammes of hydrocarbons, gives 892 calories. An addition of 100 grammes of butter brings the number of calories up to 1,700, and to 2,000 if 100 grammes of cream and 50 grammes of sugar are added. This menu contains ten times less lime than milk, given in the quantity required for full milk diet, and three or four times less than the diet allowed to replace milk (Hoffman). Apples may be replaced by French beans, cucumbers or green peas. Milk, which is extremely rich in lime, is absolutely interdicted, as well as cheese, eggs, beets, savoy cabbage, rice and spinach. For drink he orders distilled water or boiled water, which has been cooled. Professor Rumpf has treated twelve cases of arteriosclerosis in this way, and in three cases of angina pectoris the success has been marvelous. In all these cases an exact account was kept of the amount of food taken, as well as the excretions fecal and urinary, and it was proved that the patients excreted more lime than they took in their food. Rumpf asks if the good effects of the treatment are due to the decalcification of the coronary arteries He does not pretend to cure calcification of these vessels. At most he hopes to keep the atheroma *in statu quo*, and wishes that his experiments may simply be considered as a new method of treating cardiac atheroma.

The editor of the *Canadian Journal of Medicine and Surgery*, from which the foregoing is extracted, remarks that there does not seem to be any reason to think that in well-selected cases this dietetic treatment of calcification can do any harm. Flint says that "calcification may be a conservative process, as when it checks the growth of tumors, or it may be detrimental, as when it affects the arteries or cardiac valves." In the former it would not be advisable to interfere; in the latter, however, as the increased elimination of lime salts ought to prevent the deposit of fresh calcareous matter from the blood in the walls of the weakened vessels, Rumpf's treatment holds out a hope of relief to patients affected with a very grave pathological condition, and seems well worthy of a trial.

—It is a Chinese maxim that "the physician who is sure of his diagnosis says little. He who is not sure, talks much without being understood."

OBITUARY.

Dr. Joseph O'Dwyer, who brought to perfection the operation now so popular of intubating the larynx, died January 7, after a brief but painful illness. At the time of his death Dr. O'Dwyer was attending physician at the New York Foundling Asylum, and St. Vincent's Hospital.

Ernest Abraham Hart, for thirty years editor of the *British Medical Journal*, died January 7. Nearly all of his professional life he was connected with medical journals in an editorial capacity. The latest volume of the "Twentieth Century Medical Practice" contains an interesting article from his pen.

MISCELLANY.

Intelligent people will wait for an opinion in medicine, as they do in law.

—Two brothers and three sisters, living in the same house in Skibbereen, Ireland, developed acute mania suddenly, and without assignable cause.

—The Belgian Government offers a prize of $10,000 to any one who will discover a chemical that will take the place of phosphorus in match-making.

—A French surgeon was fined and imprisoned for causing the death of a patient in doing a laparotomy, by leaving a pair of forgotten forceps in the abdominal cavity.

—M. Phisalix, the French authority on the venoms of insects and reptiles, has established beyond a doubt that the poison of the hornet renders one immune to that of the viper.

—A trained nurse in Chicago has recently established herself as a "home nurse." She attends the sick on the same plan that the physicians do, making daily calls upon her patients and charging a small fee.

—Dr. Stocker, of Glasgow, believes that the most distressing movement of a ship, the pitch—which is the chief cause of seasickness—can be antagonized by means of a full respiration taken deliberately with each descent of the ship.

—A Chinese proverb says: "The greatest enemy to the health of men is woman. The worst enemy to the health of women is man. Study deeply into the diseases of the two sexes, and you will learn that, for a long life, it is necessary to establish a separation."

—Mr. Jonathan Hutchinson asserts that the pain of lumbago is not in the lumbar muscles nor indeed in the loins at all. "If we wish," he says, "to use this word with precision, we should understand it to denote a liability to pain on movement across the sacrum or in the sacro-iliac synchondroses."

—Dr. Clifford Mitchell says: "I notice a falling off in my office practice during the bicycle season and a general improvement in the condition of such patients as, having no organic lesion, ride the wheel during the summer months. The greatest danger in bicycle riding is to the doctor's pocket book!"

—In ascending Mt. Ararat last fall, Dr. Stoeber, a physician and geologist, was frozen to death. The late Noah, who lit on the mountain some years back (remarks a Western paper) made no complaint of the temperature. Anything in the line of real estate, hot or cold, came in very handy about that time.

—Of all the suggestions made as to the use of some disinfectant for street sprinkling the use of salt appears to be the most feasible (*Amer. Druggist*). Where sea water is available it would undoubtedly be of great value, and coast cities should devise some means of furnishing a supply of sea water for this purpose.

—Discussing the vivisection controversy, the editor of *Appleton's Popular Science Monthly* says: "We may be sure that the more animals become the subjects of scientific study and treatment, the better on the whole will be their lot. Science and humanity go hand in hand, for the simple reason that *science is human*."

—It is reported that over forty victims of the cocaine habit, induced largely by the use of popular preparations as catarrh cures, appeared in the police courts, etc., of Chicago within two or three months of last year. The evil was so noticeable as to cause the introduction of an ordinance prohibiting the sale of these dangerous remedies.

—It is a general impression, says the *Engineering Magazine*, that asphalt is slippery, and this has been urged as an objection to it as a paving material. The source of slipperyness is the presence of dirt upon the smooth asphalt surface; when the pavement is kept thoroughly clean, either by washing or otherwise, little trouble is experienced.

—According to the *Amer. Med. Surg. Bulletin*, there is an acre (Qy: area?) in this city, bounded by Cherry, Hamilton, Catharine and Market streets, where the death record is appalling. Last year there were ninety-one funerals within its confines. Since 1880 the number who have died in this tenement block has never been less than eighty-seven, and sometimes reaches ninety-three.

—In New Orleans recently a Catholic priest was fined $25 for violating a city ordinance relative to clairvoyants, unlicensed practitioners and the like. The clergyman, while willing to pray over those who desired his services, did not pretend to be able to cure diseases and did not demand any payment for his ministrations, although accepting such sums as his callers chose to give him.

—A woman was carried on a mattress to the Seney Hospital in Brooklyn lately. She was suffering from a tumor, and was too weak to walk. The surgeons examined her, and fixed upon a day for operating. On the morning of the day, the woman arose, dressed herself and walked out of the hospital. She had been "cured" by fright. The doctors say they have known of several other such cases.

—*Pick-Me-Up*, London (*Lit. Dig.*), comes to the conclusion that it is more dangerous to be innocent in the United States than to be a convicted murderer. There were, argues the paper, 40 per cent. fewer legal executions in the United States last year than lynchings. Of the men lynched, a much larger proportion than one in fifty was innocent, while not one convicted murderer in fifty was executed.

—It is reported that the medical section of the National Exposition to be held at Turin, Italy, in 1898, will devote its attention largely to the subject of premature burial. Reports and exhibits already in preparation are to be presented. The aim of those directly interested in the sectional work seems to be to induce all Governments to make laws requiring dead bodies to be kept a certain fixed period before burial.

—The basal motive of the Keeley legislation has at last been legally stated by the Wisconsin Supreme Court, which has declared the act passed by the Wisconsin legislature, providing for the treatment of habitual drunkards in private institutions, unconstitutional on the ground that its purpose was to benefit private parties. Nor can a county be legally compelled to supply treatment for such cases simply on account of their poverty.

—*International Journal of Surgery* very judiciously advises: If an adult patient complains that he discharges at stool a little blood and mucus, and if he has some alternating constipation and diarrhœa, his rectum should be carefully examined, as he may be suffering from cancer. In the early stages there is often but slight pain, and the patient may believe that he suffers from hemorrhoids. Sacral pain is often attributed to rheumatism or lumbago.

—The *American Medico Surgical Bulletin* says that recent experiments and observations show that death, after burning, is due to the absorption of ptomaines produced by chemical changes in the tissues due to burns. The immediate removal of the burned part prevents this absorption, and consequently all specific symptoms of the burn and death. The same objects may be attained by venesection and the immediate transfusion of healthy blood or artificial serum.

—Abbe (*Medical News*) says that the best treatment for nevus of the face consists in the use of an ordinary large cambric needle or hat-pin, heated to a red heat, and then plunged into the tissues of the nevus *at a black heat*. The insertion of the needle at a black heat has much to do with securing good results. Punctures should be made in this way all over the tumor. There is no bleeding whatever, and the case is usually cured in three or four operations.

—The dissection of cats and dogs is recommended as a legitimate school exercise for young children by Prof. Burt G. Wilder, in *Science*, December 17. He says: "If it be legitimate to slaughter animals for food, it is even more so to kill them humanely (as with chloroform) in order to gain information. This is particularly true of the superfluous cats and dogs that lead miserable lives in most cities. Children should be taught that the greatest kindness toward such is a speedy and painless death."

—A Russian chemist is reported by the *Brit. and Col. Druggist* (*Pop. Sci.*) to have discovered a substance with most powerful anesthetic properties, which exerts its influence over a wide area even when diluted with air. It is proposed to determine whether it will not be possible to enclose the anesthetic in bombs, which could be thrown into an enemy's ranks and there exploded, thus anesthetizing large bodies of troops and rendering them an easy prey. This would "put one's adversary to sleep."

ORIGINAL ARTICLES.

CAUSES AND RECENT TREATMENT OF NEURASTHENIA.

By John D. Quackenbos, A.M., M.D., New York.

Fellow of the New York Academy of Medicine; Member of the New York Academy of Sciences; Fellow of the New Hampshire Medical Society.

Neurasthenia, or *nervous exhaustion*, the so-called "American disease," is not modern, but belongs to that category which the man of wisdom had in mind when he remarked, "There is no new thing under the sun." It has afflicted the human race from the beginning of history. Indeed, if we may believe Milton, before man knew what suffering is, the arch-enemy of our kind, after that "dubious battle on the plains of Heaven," and the fall to that state where "peace can never dwell, hope never comes," tasted to the full the agony of the neuasthenic.

"Me miserable! which way shall I fly infinite despair?
Which way I fly is Hell; myself am Hell;
And in the lowest deep, a lower deep
Still threat'ning to devour me opens wide,
To which the Hell I suffer seems a Heaven."

A political outcast, object of the ridicule of a dissolute court, shattered in health and in fortune, blind and helpless, and not a stranger to that ingratitude which Shakespeare described as sharper than a serpent's tooth—John Milton seems to me to have put into the mouth of Satan an accurate description of his own mental suffering.

As I glance over the biographical records of the past in search of evidence confirmatory of Arndt's assertion that neurasthenia has been recognized for thousands of years, I find the Greek and Sanscrit classics replete with instances of emotional exhaustion; melancholia from disappointment in love; piqued women like Lesbain Sappho, who flung themselves from Leucadian capes; sexual neurasthenics and perverts; with few overworked classes like the scholastikoi, or befuddled bookworms, that figure in the "Facetiæ" of Hierocles. The typical neurasthenic figure in Semitic history is Job, with his malassimilation, his auto-infection, and his cell-exhaustion from mental strain. And the Lord, his physician, gave him the advice we are so ready to extend to the modern neurasthenic, "*Gird up thy loins like a man.*"

Perhaps the most marked case of neurasthenia in antiquity is that of Maecenas, who certainly affords a conspicuous instance of nervous prostration. According to Seneca (de Provid., III: 9), he was an *insomniac*; Horace (Odes, II: 17) pictures him as a *hypochondriac*, and Pliny (VII 51) as *troubled with a continual restlessness.* In fact, he exhibited all the stigmata of degeneration, including what seems to be masochismus, inasmuch as he dressed like a woman (Seneca Epistles, 114,) and was noted for his effeminacy. The accounts of his life indicate that his neurasthenia was the result of the same causes that operate to-day to produce the disease.

Although thus not an American affection in its origin, neurasthenia is peculiarly American in its distribution—the rush and tear and overwork, the emotional excitement connected with failure and success, the slavery to social obligations and pleasures, so characteristic of American women, sufficiently accounting for its widespread existence in this country. American fashionable and business life is a continuous nerve-storm. Nor, again, is it peculiarly the rich man's disease, for it afflicts as frequently the poorer classes, on whom fall so heavily the burdens incident to battle with the world. I have been surprised at its prevalence among the resident population of this state, especially as a sequel of the grip or influenza, of typhoid and of the zymotic diseases generally (toxic neurasthenia), and in its climacteric phase with the native women, broken down by a life-long domestic service, or by excessive child-bearing and lactation. The symptoms are generally misunderstood, and the condition is improperly treated, or regarded with suspicion, indifference, or ridicule. It is not my purpose to dwell this morning upon the symptoms of neurasthenia—the paræsthesias and hyperæsthesias; the asthenopia and atonic voice; the deficient thirst (all neurasthenics are hydrophobiacs, with desiccated nerves); the constipation and fermentative dyspepsia, with their accompanying intoxications; the oxaluria and uricacidæmia; the vertigos and helmet headaches; the loss of vaso-motor tone; the sensitiveness to noises, vibrations, and jars incident to existence in a land of electric and steam cars, of jostling crowds, clanging factories, and crowded streets and stores; the failure of sexual power and pleasure in the sexual act; the intractable sleeplessness; the agonizing tension as though under some frightful brain pressure; the sickening oppression about the præcordia (*praecordialangst*); the morbid fears, especially monophobia (fear of solitude) and anthropophobia (fear of society); the dread of responsibility; the indecision and *folie du doute;* the fixed conviction of incompetence and uselessness; and the delusional mental state, with its imperative conceptions. I need hardly picture the climax of this condition, at which faith and hope and love are, as Milton said, *turned to Hell;* at which Christian principle at last relaxes its hold on the tortured soul, and the sufferer of woes indescribable buries his agony in a self-sought grave.

There is a distinct line of demarkation between this state and insanity, in that it is amenable to curative treatment. The neurasthenic, if properly dealt with, may, in the great majority of cases, be saved, restored to comparative health, and made a useful and happy member of society again.

Permit me now briefly to discuss the direct physiological cause of the neurasthenic condition, and acquaint you with the treatment which I consider philosophical, and which I have found invariably to a greater or less degree successful.

Neurasthenia is a depraved state of the nervous system, caused by mal-nutrition of the nerve elements, through the abnormal disassimilation of the complex phosphorus-bearing nerve substances.

A nerve cell is a cell-body under control of a nucleus and provided with branches or processes, the principal one of which, regarded as the true

outgrowth of the cell, is called a *neuron*. It is the seat of ceaseless metabolic change, conditioning the replenishment of the contained phosphorus-bearing substances that represent so much stored or potential nerve energy, and that are transformed and consumed in the evolution of such energy.

Physiologists believe that the passage of nerve impulses alter the *osmotic* powers of the cell wall toward the surrounding plasma, and that by *endosmosis* and *exosmosis* the nutritive exchange takes place. The dense network of capillaries enviroring the cells indicates that they are the centers of this nutritive metabolism. In neurasthenia, not only are the nutritive properties of the cell-encircling plasma altered by auto-intoxication, the poison of infectious diseases, or by alcoholism, cocainism, morphinism, etc., but in some instances, through the action of the same causes, the cells appear measurably to have lost the power to appropriate what limited amount of nourishment may be present. In either case, the cell-bodies are more or less *starved*, and their energy-projecting powers correspondingly impaired.

No doubt the commonest cause of this cell-exhaustion and consequent impoverishment of nerve force—*the cause of the cause of neurasthenia*—is the intemperate exercise of the intellectual faculties and the excessive indulgence of the emotions and passions. I believe *emotional unrest* to be a far more prolific cause than labor disassociated from irritation and anxiety. The greater number of neurasthenics are unmarried persons, the operative causes in single men being the excitements connected with sexual and alcoholic excesses and with gambling; in single women, the harassing struggle for bread. Sexual abstinence is in itself a predisposing cause of neurasthenia; but sexual excesses and irregularities are an every-day active cause. Sexual intercourse, naturally and temperately used, is a nerve sedative and tonic; intemperately or unnaturally indulged in, a nerve irritant and drain. *It is not the passage of semen nor the secretion of mucous fluid by the glands of Bartholini that does the mischief, but the repeated orgasm or reflex act of ejaculation*, which like an epileptic convulsion, implies a nerve shock, and which exhausts the protoplasm and shrinks the nuclei of the cells as do electric discharges through them.

In some ill-understood manner, all such abuses produce cell-degenerating toxines not apparent to the microscope or appreciable by chemical analysis. Whatever, by prolonged or excessive action, enfeebles the system, must exhaust the cell-bodies faster than they can reproduce themselves. A sufficient amount of nutritive material is not floated to the centers of abnormal cell-activity to compensate for the extra demand made upon them, nor are the waste products removed as speedily as is consistent with health and safety. And what are the results? Malnutrition and auto-intoxication.

When we exercise our muscles merely for the sake of pleasure, the amusement is called *play*. When we similarly exercise eye and ear, the amusement is known as *æsthetic* feeling. The first is *active;* the second, *passive*. In each case *pleasure* accompanies *the activity of well-nourished* and *underworked organs*. On this principle human health and happiness hang—*well-nourished and underworked cells*—a normal amount of activity in the terminal nerve organs of the cerebro-spinal nervous system. But let certain nerves be called upon to perform an excess of work, and painful feeling results. Note the effect of dynamo-generated electric light upon the eye. Those who use the incandescent lamps for reading may refer the massive pain and feeling of irritation in the eye-ball that follows an evening's work, to the imperceptible unsteadiness in the white-hot filament of carbon. This light really *pulsates*—rises and falls with the passage of each commutator bar under the brushes in the dynamo. If the engine be slowed down, the fluctuations become visible; but *whether they are consciously appreciated or not*, the nerve fibers in the retina must certainly respond, and the eyes become wearied; because, although the optic fibers are renewed seventeen times a second in order that we may learn so much and so unremittingly of the world about us, the destructive metamorphosis here is in excess of repair. In like manner, in all normal cerebral and nervous activity, we have constantly induced partial fatigues, followed by partial stimulations. In overuse, the reparative processes are distanced by destructive metamorphosis; nutritive regeneration is unable fully to restore the wasted substance of the nerve-organs; and where the hours of sleep are invaded to meet the demands of a growing business or an imperious ambition, these nerve-organs rapidly lose the power of regeneration and become incapacitated for the fulfilment of their functions. Hence the morbid impulse to ingest more food than can be oxidized; hence the phosphaturia and uricacidæmia, the indigestion, and the neurasthenic liver. I hold that these are the *effects* of *nerve starvation*, not the origin of it; and here the mistake is made by many practitioners who treat merely the symptoms, forgetful to remove the causes that give rise to the symptoms. The nerve exhaustion primarily acts to produce the oxaluria, uricacidæmia, gastric and intestinal dyspepsia, prostatic neuroses, irritable and depressing sexual functions, muscular insufficiencies of the eyes and general asthenopia, praecordialangst, insomnia, and cardiac breakdown; and *these results react as causes to perpetuate* the nerve exhaustion. In neurasthenia *effects immediately assume the role of causes*, and hence the danger of error in treating the disease.

You ask whether the microscope has revealed any deviation from the normal in cells that are in a condition of pathological fatigue. We all know from autopsies the toxic effects of infectious and acute inflammatory diseases in shrinking the nuclei and curtailing the processes of cephalic and corneal cells. We also know from experiments made on the lower animals that at the end of a day of active toil the nuclei appear small and shrunken, but after a night of rest the cells are turgid with large, well rounded nuclei: Hence we certainly are justified in the inference that the cell-bodies of neurasthenics exhibit peculiar signs of defective nutrition. Says Gray: "The same cell that can become *organically al-*

tered can become *functionally altered;* or the pathological alteration which we call general paresis, poliomyelitis, or peripheral neuritis, may have its functional analogue in cerebral, spinal, or peripheral neurasthenia, with this difference, that the cell which is originally altered in its molecular constitution cannot be made to return to the normal so readily as the functionally impaired cell."

Dr. Ira van Gieson, the state pathologist of New York, writes me, under date of April 2, that his opinion coincides with my own, viz., that there is some measure of toxicity degeneration in the nerve cells of neurasthenics. But the demonstration of such changes must involve very great difficulties, as well on account of the enormous amount of territory in the cortex to be examined, as by reason of the difficulty of obtaining neurasthenic material for autopsy purposes. As yet no work has been done along the new lines of research in the application of the methods and principles of modern cellular biology to the study of neurasthenia. However, treatment on the theory of cell-exhaustion and the practicability of cell-feeding has been the most successful. I believe that if the rest be made long enough, the food stimulating enough, the sleep regular, the change of employment judicious, and all worry removed, most cases of neurasthenia may be greatly improved, if not entirely cured. The trend of this treatment is wholly in the line of nutrition and direct stimulation of the spinal cord.

Chemistry has demonstrated the presence of a phosphorus-bearing substance in the nerve cells. This is known as lecithin (*lecithos*, literally yolk of an egg), a hygroscopic white, waxy solid, composed of carbon hydrogen, nitrogen, *phosphorus*, and oxygen. It is a constituent of every cell in our bodies, but especially characteristic of those that make up brain and nerve substance. Chemically, lecithin is a *glycero-phosphate of neurin*—neurin constituting the albuminous basis of nerve tissue and occurring in the gray granular vesicular nervous matter and in the white fibrous nervous matter. Lecithin is found also in pus, in the white corpuscles, and in semen. In combination with cerebrin, it constitutes protagon, the principal form in which it is met with in the brain. Life depends on the presence of healthy lecithin. Neurasthenia is due to a diminished amount or reduced quality of this glycero-phosphate. Hence the philosophy of administering a *glycero-phosphate of lime* in conditions characterized by defective nutrition of nerve and brain cells, which means a diminution of phosphorus in the cerebral and nervous matter. Attention was called to the value of glycero-phosphate of lime in the treatment of neurasthenia by Dr. Albert Robin, before the "Academie de Medicine" of Paris, as recently as 1894, and the French preparation began to be used by a few American physicians in 1895. Glycero-phosphate of lime has been found rapidly to restore to the system the phosphorus eliminated in excess through the urine, and was proved by Robin to diminish the excretion of incompletely oxidized phosphorus there present, and indicative of pathological waste. It supplies the exhausted and enervated cells with phosphorus in a state of combination essentially the same as that naturally contained in them—an *organic* or physiological phosphorus, as it were—*readily assimilable*, and thus differing from the mineral phosphorus of the popular syrups of the hypophosphites and the ordinary unassimilable phosphate of lime. Its administration at once stimulates nutrition, promoting metabolism, and hastening the rapid tissue interchange which constitutes health. In sexual neurasthenia and the impotence of old age, the effect of the glycero-phosphate is especially marked. Sexual energy and the pleasure connected with the sexual act are quickly restored. I have notes of cases in which persons upwards of seventy years of age regained under its influence the full powers of middle life. *Treatment of neurasthenia with glycero-phosphate of lime is the treatmeut that ignores reflexes and directly addresses the seat of the disease.*

It would be trespassing on our time to retail here the ideas of treatment that are to be found in the standard text-books. With me they have too often proved unsatisfactory. But I will briefly outline for your consideration the method that I follow. I administer five grains of the glycero-phosphate of lime in capsules with each meal, and continue this treatment unremittingly *for a year* or until cure is effected, *not expecting* results that are apparent and gratifying to the patient until after three or four weeks of medication. There are cases characterized by marked physical depression in which I prefer the wine of the glycero-phosphate of lime—a sherry-glassful before meals. Its action is immediate, and the slight stimulation due to the alcohol seems to be maintained by the absorption of the glycero-phosphate with the food.

With the glycero-phosphate of lime at meal time, I combine a fortieth or fiftieth of a grain of strychnia, to promote the nutrition of the cord; and this I continue for a month, then drop it for a week or two, and resume for another month. In connection with this nerve feeding, I seek to accelerate, through the several channels of exit, the elimination of waste products and toxins. At every relapse I give calomel; during the treatment cathartic mineral waters before breakfast, Saratoga, Empire, or Hathborn, or a dessert-spoonful of Carlsbad sprudel salz in a cup of hot water—either in sufficient quantity to produce a laxative and not a daily cathartic effect. I insist on the drinking of plenty of water, hot or cold, between meals, to keep the kidneys flushed, Vichy, if obtainable, preferred. Stimulate the skin with a daily bath and rub-down, and where the patient can endure the shock, the cold douche to the spine on rising. Keep the mind interested in something. Physicians are finding out that the occupation cure is preferable to the rest cure, which is responsible for an overproduction of confirmed invalids. Dr. Skene's latest conclusion is to the effect that most neurasthenic women are either disappointed spinsters or spoiled wives who have been improperly treated—or rather crossed—for trivial disorders. For these he recommends the exercise cure, pre-eminently dancing and horseback riding, not the bicycle. And yet the bicy-

cle has been recommended by Hammond, and is, as we all know, a most useful adjuvant in the treatment of nervous disease.

Where insomnia persists, sleep must be induced by artificial means. This is of supreme importance, for in normal sleep the changes throughout the nervous system are recuperative, and loss of sleep is fraught with greater damage to nerve substance than starvation through overwork or underfeeding. It is through physiological sleep, where there is no opportunity for nervous discharge, that the system attains its highest degree of efficiency, and becomes possessed of an unusual quantity of potential energy, which physicists ingeniously define as capacity for performing work.

Some neurologists contend that it is better for the patient to lie awake night after night than to resort to hypnotics, but this is not true. If sleep be induced by chloral-amid, or trional, there is no reaction, and the tendency to drowsiness —despite a wakeful day—persists the second and even the third night; so that it is seldom necessary to administer either drug two evenings in succession. It is perfectly safe to give thirty grains of trional (in hot beef tea), and in most cases this will insure eight to ten hours of refreshing slumber, and the second night, *without the trional*, sleep will be deeper than during the first. In desperate cases, where the patient wakes after two or three hours, have an additional ten-grain powder ready to place on his tongue. In milder cases, the tincture of passiflora incarnata (Daniel's) in teaspoonful doses at bedtime insures rest.

Where all drugs fail, *hypnotism* will succeed, and the current of the disease may be changed by post-hypnotic suggestion.

The psychical treatment consists in securing the confidence of the patient and making him believe that he is curable—that there is a time ahead when he will be entirely well again; but that he must have faith and not be discouraged at the chain of relapses which mark the course of the disease. When he gains a higher plane, he should be instructed to obey strictly the laws of *work* and *play* and *diet* that he has covered to be good government for *him*.

If the case be one of traumatic neurasthenia, commonly called "railroad spine," with *indisposition*, sometimes *inability*, to use mind or muscles, it is our duty to discourage litigation. Worry thereabout, brooding over trouble, transforms the neuroses into a cortex habit, and the patient may become an invalid for life. The longer the functional trouble lasts, the less likelihood is there of recovery. Litigation aggravates it, and thus through the psychical effect is more injurious than the trauma itself.

If anything is to be added to this treatment it is *exercise within the limits of fatigue*, any kind of *riding* or *rowing* preferred to *walking;* fresh air at an altitude not exceeding two thousand feet; a nutritious and easily digested diet, in which phosphorus-bearing grains play an important part, and red wines rich in phosphate of iron are judiciously used; and finally, the most conscientious observance of the old Greek law—*meden agan*, or *nothing too much*.

THE HISTORY OF THE X-RAYS AND THEIR APPLICATION IN MEDICAL AND SURGICAL DIAGNOSIS.*

By J. Milner Coit, Ph.D., St. Paul's School, Concord, N. H.

I ESTEEM it a great honor and privilege to be here this evening, and to be invited to address you on a subject which I trust will be of some interest to you. If in any small degree I shall succeed in adding to your fund of information about a discovery which is bound to be of great use and advantage in the practice of your profession, I shall feel that I am but paying a debt which I owe to you as physicians. For I am under deep and lasting obligations to the medical men, so many of whom I number among my closest friends, and with whom I have had intimate relations. For the last twenty-one years I have had a daily intercourse with the doctor, and I have learned to admire and to have the profoundest respect for your noble calling. I know of no one I would as soon choose for my friend and companion as the medical man. I feel therefore, gentlemen, that I owe you a debt of gratitude, and I am here to-night to make a small payment on account, and to add my tribute to a profession with which I have the pleasantest associations of my life, and which has contributed so much to the physical and chemical sciences, of which I am a very humble representative.

I am to talk to you this evening on a subject with which I presume you are more or less familiar, for although the discovery of the X or Roentgen rays is scarcely two years old, yet the literature on the subject is already assuming considerable proportions and demanding the attention of all classes of readers, so that if I call your attention to facts which are not new to you, I must ask your kind patience and indulgence.

This nineteenth century, just closing, is one of the most remarkable periods of time the world has ever known for the advance made in all departments of science. I shall ask you to consider only a very few of the discoveries made during this time, and chiefly those which have been of value to your own science. And I am led to speak of the practice of medicine and surgery as an almost exact science, such great advances having been made in it during the last one hundred years, owing largely, I think, to the influence of physical, chemical, psychological, and other sciences. Let me mention in this connection the wonderful improvements in the microscope, the great aid to the pathologist; the great stride made in the department of organic chemistry, the isolation of the more than one thousand compounds of hydrogen and carbon which have added so much to your materia medica; the researches in the biological laboratory, the bringing of psychological science almost within the domain of the exact sciences, and very near your own; the study of certain psychic phenomena, such as hypnotism and hypnotic suggestion, opening the wide field for the study

* Read before the New Hampshire Medical Society.

of the influence of mind over matter; the advance made in antiseptic methods, and the adoption of some of these hydrocarbons to which I have alluded for these purposes; the attention given to the study of the germ theory as advanced by Pasteur, and the use of the bacteriological laboratory; the most beneficial discoveries of ether and chloroform and the other anæsthetics, the handmaids of the surgeon, rendering the cut of his knife painless, and the means by which so many human lives have been saved; the various ingenious mechanical contrivances applied to your surgical instruments, the applications of electricity in certain cases—all these, the products of the inventive genius of this nineteenth century, are bringing the medical science within the range of the exact sciences. And now, at the very close of this century, appear two discoveries which have startled the scientific world, i. e., the discovery of argon, the new element in the atmosphere, three years ago by Lord Kelvin, and of that new form of energy, the Roentgen or X-rays, so marvelous in their chemical effect and penetrating power, and which are becoming of great value to you in surgical diagnosis. We call them Roentgen rays from the name of the discoverer; but Roentgen calls them X-rays from the symbol of the unknown quantity, because their nature has not yet been fully determined.

Truly, gentlemen, in the practice of your profession you are summoning to your aid the sciences, and the scientific investigator or discoverer sits at your elbow and suggests to you means and methods which in your larger field you can adopt and employ for the good of your fellow-beings. And so as a lover and student of the physical sciences, I am proud to stand on the threshold of your noble profession, and if not in it, to be at least of it. It is most gratifying and reassuring to observe the greater demands that are being made by the medical colleges in the way of advanced requirements for admission, and how much more time is being spent in the curriculum upon the study of the scientific methods of reasoning, and in the laboratory methods of acquiring knowledge.

The discovery of this new form of energy, like all other discoveries, is a process of evolution. I think that the two greatest factors and influences in the development and application of the exact sciences are the doctrine of evolution and the law of the correlations of the physical forces, sometimes called conservation of energy. The history of the discovery of the circulation of the blood seems to illustrate what I have said as to this principle of evolution in the development of science. In 1630, you remember, Harvey gave to the world his famous discovery of the circulation of the blood through the arteries and back again through the veins to the heart, but it was left for Lewenhoek, in 1690, sixty years later, with the use of his microscope, to show how the blood gets from the arteries into the veins through a network of minute vessels, "the thin walls of which," as Lewenhoek expressed it, "allow the fluid plasma to transude into the tissues so as to serve their nutriment."

Five names are connected with the history of the X-rays, i. e., Faraday, Crookes, Hertz, Lennard and Roentgen. I place these names in their chronological order. I wish I had time to speak in detail of the special work of each if these men, and so to illustrate what I have already stated as to the application the theory of evolution finds in the development of this one department of knowledge. But you must let me speak of Michael Faraday, who, in 1824, discovered that important fact from which so much in the development of electricity results, that a current of electricity flowing through a conductor will induce in a neighboring conductor a current in the opposite direction. Faraday also discovered the effects of the cathode rays (or rays from the negative electrode) inside an exhausted tube. He found that, when a high pressure electric current was passed through a tube which was almost a vacuum, the tube was illuminated, the residual gas being rendered phosphorescent. (Illustration.) Crookes further developed Faraday's discovery by filling tubes with different gases at very low pressures, and gave the name of radiant matter or fourth state to this residual gas remaining in the tube. Geisler made further experiments in this direction. (Experiment.) It was while experimenting with a Crookes tube that Lennard, in 1894, discovered certain properties of these cathode rays, or rays that come from the negative electrode. Lennard found that when a photographic negative plate was placed near to the tube in which these rays were produced, shadows of objects placed over the opaque cover of the plate were formed. But he did not know what these rays were, or anything more of their nature. It remained for Roentgen, professor in the University of Wurzburg, to isolate these X-rays from the cathode rays, and to show that they were entirely different, although produced by them. He found that the cathode rays were magnetic, as I will show you, while the X-rays were not, and that these X-rays had wonderful penetrating power (of a selective nature), i. e., that they would penetrate and pass through such substances as wood, aluminum, organic substances, flesh and tissue; while other substances, such as glass, silver, and other metals, and bone, were impervious to them. So he applied them to producing radiographs, or shadow pictures, of the hand; and gradually they have been used for making these shadow pictures of almost every part of the body, the bony and cartilaginous portions casting these shadows, of which you have seen so many specimens. (An experiment showing the difference between light shadows and radiographs.)

Before a further consideration of what this new force really is and the phenomenon it produces, we must understand the modern and generally accepted opinion with regard, first, to the ethereal medium, its nature and properties; second, to the theory of radiant energy; and third, to the undulatory theory of light, including its production by rapid vibratory motion. It seems to me that our most clearly proved knowledge with regard to these X-rays depends upon these theories. I shall not go into details with regard to them, for I take it that you are quite familiar at least with what is known as the ethereal hypothe-

sis. Allow me to show you what we mean by radiant energy, and for that purpose I have here a perfect piece of apparatus called the Crookes radiometer, which, when first invented and shown by Professor Crookes interested the scientific world. (Here an experiment was shown with the instrument, illustrating that the little vanes in the highly attenuated medium within the tube were put in motion when brought near the light, and that the velocity of rotation decreased as the radiometer was moved further away from the light.) This illustration, I think, will make clear to you what we mean by radiant energy.

I might allude here to the newly adopted theory that light is due to electro-magnetic vibrations set up in this medium, which we call the ether, and that the different colors are due to different rates of vibration, and that they produce different effects, the rays of light at and beyond the violet end of the spectrum having chemical properties.

Now let us proceed to the examination of these X-rays themselves. I shall use a storage battery as my source of electrical energy, and an induction coil to change the low tension current of the battery to one of high pressure, for it is only by means of a high tension current that this phenomenon of fluorescence can be produced. I think I can show you how these rays are produced better with this apparatus than with the larger and more powerful apparatus by Dr. Hoyt, which will be shown later. (Experiments were here shown to illustrate the difference between the anode and cathode ends of the circuit, and these terms were defined. The deflection of the cathode rays by a magnet, and the non-magnetic properties of the X-rays also were shown.) You have noticed in this experiment that the X-rays are produced on the spot opposite the cathode pole of the tube without regard to the anode, and also that the rays proceeding from the cathode pole were influenced by the magnet, while the X-rays were not.

Now as to what these rays really are. Are they light waves, transverse or longitudinal, or are they caused by the bombardment of particles of radiant matter against the side of the tube? Or shall we adopt Tesla's explanation and say they are particles of matter which have passed through the glass owing to the force of this high pressure current, and produce their shadows by this varying, penetrating power; or shall we agree to the vortex theory, which I shall not attempt to explain? If these rays are light waves, beyond the violet end of the spectrum (and of very small wave length, i. e., less than 1-63,000 inch,) then they must suffer refraction in passing from one medium into another, as from air into water or carbon bisulphide. They must be capable also of reflection and of being polarized.

If the X-rays are very short transverse waves of light, which are too small in comparison with the unevenness of highly polished substances to be regularly reflected or polarized, then the condition as to reflection and polarization is met. Now we know that in certain cases of anomalous refraction and dispersion the amount of refraction (i. e., the index of refraction) diminishes as the length of the wave grows shorter. So this would seem to meet the condition first mentioned. Now, as a matter of fact, rays have been reflected at a very small angle, and my friend, Dr. Hoyt, has, I think, found that the reflection of these rays is quite possible. But may they not be, as Roentgen suggests, longitudinal waves set up in the ethereal medium by the cathode rays, and if so, refraction or polarization will not be necessary to prove their identity with light waves. I think that scientific investigators in Europe, as well as in America, are coming to think that the X-rays are invisible rays of light beyond the violet end of the spectrum, of exceedingly short wave lengths.

Among the curious effects of these rays is that of rendering certain substances, like platino-cyanide of barium, tungstate of calcium, and tungstate of sodium, fluorescent. So that if we hold up a screen coated with one of these substances in front of a Crookes tube from which these rays are being produced, a shadow of an opaque body held between the screen and tube will be found on the screen. Now this property is of immense value to the surgeon in the examination of fractures, dislocations, or other injuries, and in the locating of foreign substances in tissue or even in bone itself.

I presume that some of you have already made use of this mysterious agent in your practice to make a diagnosis or confirm one already made. I shall only cite a very few cases where the X-ray has been used to great advantage. With some of these perhaps you are already familiar. The radiographs or sciagraphs, which I ask you to look at, some of them taken in the laboratory of St. Paul's School, and some by Dr. Hoyt and myself, and afterwards developed by Mr. Kimball, and others which have been loaned to me by my friend, Dr. Goodspeed, of the University of Pennsylvania, will show you better than I can describe, what has been done in this way. Later, by means of the magic lantern, I shall show some of these radiographs on the screen greatly enlarged.

Of course, in the use of the X-rays and the fluoroscope, practice is required to arrive at accurate results, and sometimes several pictures from different positions must be taken in order to arrive at a correct diagnosis of a fracture, or of an abnormal condition of an organ. The operator will, of course, learn more and more by experience, and new methods of using an X-ray apparatus will be suggested. Of their great practical value in surgical and medical diagnosis there can be no doubt, even in the undeveloped stage.

Among the revelations of these X-rays are those relating to normal anatomy, and comparative anatomy, and in studying the structure of the lower animals. In teaching the anatomy of the blood vessels, the X-ray opens up a new field. Arteries and veins of dead bodies may be filled with substances opaque to these rays, and thus their distribution may be more accurately followed than by dissection. In their application to surgery, it is possible to detect and diagnosticate fractures and dislocations, discover deformities, and even diseases like tuberculosis and cancer, which in destroying the bone structure have varied its density. Progress of the union of a bone after it has been set, or even corrections in set-

ting, may be made, and the fault rectified. In cases of anchylosis, when it is important to decide whether the fixed portion is injured by fracture or is due to a growth of bone or a growth of soft tissue, the X-ray comes to the aid of the surgeon, and will settle the question. The bony bands or adhesions are opaque to X-rays, and the fibrous bands transparent. This new agent has also been of use in dentistry, the density of the teeth being greater than the bone which surrounds them. Let me cite a few cases where the X-rays have been of great value to the surgeon. These are taken from the accounts in medical journals, and from other reliable sources. They are but a few of the many which might be quoted:

Dr. Hogarth, the medical officer of the general hospital in Nottingham, England, removed a needle, found by means of a sciagraph, at the base of the fifth metacarpal bone in the hand of a young woman. The needle had entered the palm of the hand while washing the floor. Chloroform had been given and an incision made, but no needle was found, and its presence doubted.

Bullets were clearly located in the hands of two different men by Professor Miller, of the Case School of Applied Science. In one the bullet had been lodged fourteen years, and had always been thought to lie between the bones of the forearm; but two sciagraphs, from different directions, located the ball at the base of the little finger. Dr. Morton, of New York, by means of a sciagraph discovered the cause of a stiffened wrist to be a Colles' fracture, the ulna and radius bones having been telescoped into their fractured ends by a fall. Oudin, by means of a sciagraph, distinguished osteomyelitis from periostitis; in the case of a person diseased with the former, the surface of the bone was found to be intact, while the internal parts were destroyed. In the latter disease the changes proceed from the surface to the interior. Our own Dr. Bancroft, of the state lunatic asylum, with the aid of Dr. Hoyt's apparatus and fluoroscope, located a bullet in the end of the femur of one of his patients. The bullet was supposed to be under the patella, and had been discharged into the leg twenty years ago. In Boston Dr. Norton, in conjunction with Dr. Francis H. Williams, examined several patients from the city hospital to determine how an X-ray diagnosis would agree with that previously made by the hospital staff. The outline of an enlarged liver, seven inches in diameter, was easily distinguished by two outlines, one by percussion and one by X-rays, agreeing better in favor of the latter by one-half an inch. An enlarged spleen was perfectly outlined. The tuberculosis of one lung caused it to be more opaque than the sound lung.

A book could be filled with the numerous cases of diagnosis of X-rays, showing their utility, but I will not weary you with more examples than I have already given.

Various properties were assigned to this new form of energy, when it was first discovered, which have not been verified by experiment. It was asserted that the Roentgen rays were germicidal, but investigations have shown that bacteria are not killed by them. They are to a degree anæsthetic, and produce certain effects on the optic nerve; but up to the present time very little investigation has been made in those directions.

Dr. Hoyt will now show you his powerful high frequency coil, the different varieties of the Crookes tubes, and the fluorescent screen, and will explain the use of this new form of energy in surgical diagnosis. Later, by means of the lantern, you will be able to see some radiographs thrown on the screen, of cases of normal and abnormal anatomy, enlarged to their full size.

(Here followed a series of experiments illustrating the penetrating power and the shadow-producing effects of the X-rays. For this purpose a high frequency coil, capable of producing over a million volts and giving a spark ten inches in length, was operated by Dr. Hoyt.)

OPERATION FOR UTERINE MYOMA BY THE VAGINO-ABDOMINAL METHOD; IODOFORM POISONING.*

By William H. Wathen, M.D., L.L.D.

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TWO weeks ago the lady from whom this tumor was removed was referred to me by Dr. J. M. Krim, who expressed the belief that the tumor was probably malignant. A few days after I saw the patient with Dr. Krim she was operated upon at the Infirmary, the tumor with the uterus being removed by the vagino-abdominal method. There was nothing especially significant in the appearance of the tumor except at one point, which was peculiar and did not look like a myomatous or fibroid tumor; it had the appearance of an inflammation; it was different in color from the balance of the tumor, and it seemed as if some condition existed within the capsule at that point which was pressing outward trying to protrude through the investing membrane. The next morning the tumor was incised and found to be of a structure different from anything I have ever seen in the hysterectomies that I have performed for uterine myomata; all that I have performed previously indicating clearly a myomatous and fibromatous development of tissue, having solid masses as a rule that could be easily enucleated; in fact in uteri where there was a single or large tumor, or many small ones, they could usually be easily enucleated. In this case the diseased condition penetrated the growth in all directions and there was no possibility of finding any line of separation upon any part of it; the outer surface had the appearance of ordinary uterine tissue a little thickened at some points and thinned at others; all the central part was very red and made up of soft tissue which had the appearance of being degenerated tissue. I then agreed with the diagnosis made previous to the operation by Dr. Krim, that the tumor was

* Reported to the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

malignant, and I considered it a sarcomatous degeneration of a uterine myoma. Sections were made but I do not believe they were very good because so much of the tissue was broken down that you could not make a perfect section from it, and I am unable myself to say from the microscopical examination what the growth is, and have asked my son, Mr. John R. Wathen, who made the sections, to bring the microscope here this evening so that some of the microscopists of the society might examine the specimens and possibly come to some conclusion.

Nothing peculiar developed in the progress of the case until after four days. When the operation was completed four pieces of iodoform gauze about three by twenty-four inches were carefully packed into the vaginal opening, extending down to the vulva, shutting off the vagina from the abdominal cavity. The woman had no trouble immediately excepting that her tongue was very dry and her pulse after eighteen hours reached a little over 100 to the minute, and remained from 100 to 110 for four days; at that time I removed part of the gauze and substituted another piece saturated with iodoform. That was about noon, and that afternoon and that night the woman's pulse became rapid, going up to 140 during the night and the temperature to 103 F., and the next morning at 8 o'clock I found her in about that condition. She improved a little during the day, and in the afternoon I removed part of the gauze and introduced another strip high up in the vagina. Following this there was increased rapidity of pulse, and the temperature which had then been reduced to 100 or 101 F., went up again to 103 F. The next day the gauze was all removed, and another piece introduced; her temperature during the preceding night having gone down to 102 F., following the introduction of this piece of gauze her temperature went up to 105 F. her pulse to 150 or over, and was almost imperceptible. She was, during all this time, a little delirious, but suffered no pain and required at no time any morphine to quiet her. Her abdomen was absolutely flat, in fact more so than in any case I have seen, and her bowels moved promptly and regularly, and for these reasons I was at first unable to come to any conclusion as to the condition with which she was suffering. The day after the last piece of gauze was introduced, while the pulse was about 150, temperature 103 to 105 F., the nurse removed all the gauze and washed out the vagina thoroughly with sterilized water. In a few hours she had improved, and by the next morning was practically out of danger, with a pulse of 120 and only one degree elevation of temperature. By the following day she had no elevation of temperature, and her pulse gradually became lower, in a day or two becoming normal.

The history of the case then convinced me that the trouble was positively the result of iodoform poisoning, and I am glad to present this case to the Society because of the fact that the question of iodoform poisoning has recently been considered by the Society in the report of several cases with discussion. In the case I have reported there was nothing that could account for the elevation of temperature and acceleration of pulse but the iodoform, and when the iodoform gauze was introduced the temperature very soon began to go up and the pulse to become more rapid; when it had remained *in situ* for eighteen hours the temperature would go down slightly, both temperature and pulse becoming increased again when the gauze was removed and a fresh piece inserted; and finally when all the gauze was removed and the vagina cleansed the temperature and pulse gradually became normal and the tongue which had been all this time dry and parched, became moist.

You may ask why this woman did not have extensive poisoning immediately subsequent to the operation, in view of the fact that at that time there were four pieces of gauze introduced while afterward there was but one. This is very easily accounted for. At first there was considerable capillary oozing of blood and serum which caused a rapid current from the tissues into the gauze, and out through the vagina, washing away the iodoform that was in the gauze, very little being absorbed, not enough to cause any intense intoxication, but enough to cause the tongue to remain very dry. When the gauze was removed, however, after four days and an additional piece put in, the outward current had ceased and the gauze being placed in contact with the raw surface absorption was more rapid; hence the intoxication. The woman is now about ready to sit up. Dr. Krim has seen the patient every day and understands the progress, etc., and if I have made an error in the report I hope he will correct it.

REMARKS.

Dr. W. C. Dugan: In my opinion the case reported is a clear case of iodoform poisoning. The three symptoms of iodoform poisoning were certainly constantly present, viz: elevation of temperature, acceleration of pulse and mental disturbance. From the fact that the trouble came on so soon after the introduction of the gauze, and reached the highest point before the iodoform was withdrawn, that the temperature was declining rapidly when withdrawn, then with reintroduction each time there was an aggravation of the symptoms, return of the fever, acceleration of pulse, continuation of delirium, I think it is as clear a demonstration as we could easily have; and then finally when the pulse was 150, temperature 105 F., when the symptoms seemed to be worse than at any other time, the gauze was entirely withdrawn, and within eighteen hours the symptoms all disappeared and the patient is practically out of danger, it seems to me that it comes as near being a demonstration of the toxic effect of iodoform as we could hope to meet with in practice, without intentionally going to work and introducing it into the system for the sole purpose of studying the poison or toxic symptoms.

As the doctor reported his case, it rather surprised me that he failed to make a diagnosis at the time of removing the second dressing, since subsequent events were but confirmatory; for as stated, the diagnosis was made.

Dr Louis Frank: It seems to me that these questions are very hard to decide from simply

hearing a report of the case. There are so many things to be taken into consideration, there are so many points to be considered, that it is very difficult for one from hearing the report of the case to judge impartially, so to speak, what the true cause of these symptoms might be. We always have, as has been demonstrated before this society on several occasions, the prejudice of the reporter very plainly shown in reports of cases.

To speak particularly to the case: I do not fully agree with Dr. Dugan that elevation of temperature is one of the three symptoms of iodoform poisoning. I have looked up the subject in several authorities which were mentioned at one of our previous meetings, and unless I have read very badly, unless I am entirely mistaken, the consensus of opinion is that elevation of temperature is rather out of the ordinary, that it is not the usual occurrence. Again in a case previously reported the same gentleman who now takes the stand that this is iodoform poisoning—because the symptoms disappeared upon withdrawal of the iodoform—argued at the previous meeting that the case then reported was one of iodoform poisoning, even though the symptoms in that case were present only a short time, and he said that the symptoms disappeared because the patient had become accustomed to the iodoform, the use of it having extended over a period of two or three days. To-night we have a case reported, having as the gentleman says, the same class of symptoms, the use of iodoform extending over several days, still the patient did not become accustomed to the drug. It would certainly seem that this drug has, in different cases, with different operators, most remarkable effects—that one patient should become accustomed to it, and another should not; that the symptoms should exist so long in one case and should disappear in such a short time in the other. I believe that the operators in these cases should be the ones who are most capable of judging. I do not see how any member of this society can very well give an opinion as to the merits of the case from the report as it is made, either the one to-night or the one previously reported, for the reason that these reports are always colored by the prejudice of the gentleman who makes them. We can always find symptoms that we look for, and we will entirely overlook those we do not care to see.

Differentiation between iodoform poisoning and sepsis should not be difficult to make; there are certain features about sepsis that I do not think could well be confounded with, or mistaken for, iodoform poisoning. The trouble is, we are averse to attributing our bad results and untoward symptoms to sepsis, even when this is plainly the cause, if we can in any way shift the responsibility upon iodoform, ether or any other factor.

Dr. J. M. Krim: I will make a slight correction in the report. It was seventy-two hours after the operation was done that the first elevation of temperature occurred. The pulse that evening was 140 to the minute, and during the night it rose to 150. The pulse next morning was 140, temperature 103 F. This was on the third day after the operation. The patient left the table in good condition; absolutely no shock, pulse good. On the fourth day the patient became delirious and remained so until the next morning. I thought possibly there might have been some sloughing going on, and told Dr. Wathen at the time that there might have been some previous intoxication from the effects of the tumor, which might be malignant, but there was absolutely no odor about the discharges and the abdominal wound healed by first intention. If there was anything wrong it certainly must have been in connection with the vaginal operation, though when the gauze was removed there was no odor. I believe, although I was skeptic at the time, that it was a case of iodoform poisoning, for the following reasons: While the iodoform gauze was in position after the operation, the oozing of serum became hardened, and there was no possible chance for much absorption of the drug; after the gauze was taken out and a new piece put in position, there was less oozing, the gauze came in contact with the raw surfaces and there was considerable absorption into the system. When the iodoform gauze was removed altogether on the fifth day, the temperature, about ten hours afterwards, was 101 F., pulse 120; in the evening of the same day the pulse went down to 110 and the temperature to 100 F. The following day the pulse was 100 and remained from 96 to 98, with temperature about 99 F.

In view of these facts I am thoroughly convinced that the trouble must have been due to the iodoform, though I admit I was skeptical at the time. At the time Dr. Wathen was under the impression that some malignant condition existed elsewhere, and did not think the iodoform was responsible for the mischief.

Dr. W. H. Wathen: In answer to the gentlemen who have spoken. The fever did not entirely disappear within eighteen hours after entire removal of the gauze, but it subsided to 100 or 101 F.; nor did the temperature ever become normal after the introduction of the gauze. There was not, from the beginning to the present time, one symptom of sepsis. I have never seen an abdomen as flat after an operation; have never seen a woman whose bowels moved more regularly after the operation and who passed gas with less difficulty. There was no nausea at any time, and no appearance or symptoms of septic infection. The only thing that attracted my attention for the first three or four days after the operation was the absolutely dry condition of the tongue. During that time the patient was hungry, wanted something to eat; never suffered pain or any other inconvenience. I did not pay much attention to the temperature during this time, but the pulse was probably over 100 after the first day. There was nothing in the case to attract attention or cause any concern until after I had taken away a considerable portion of the iodoform gauze and introduced another piece, most of it in direct contact with the raw surfaces of the vagina. Within a few hours after this gauze was introduced, the temperature went up and the pulse became accelerated, continuing for probably as long as eighteen hours from the time the gauze was reintroduced; then there was some

decline in pulse and temperature before the gauze was taken away and another piece introduced. In about the same length of time there was an increase in the pulse and temperature, following the same law observed at the introduction of the first piece and the same decline. The third piece was then introduced followed by the same changes, increased in severity; the pulse going to 150 or over and almost imperceptible, the temperature to 105 F. The patient was in such a serious condition that I did not expect to find her alive the next morning. I found her, however, a little better; the pulse being about 140 and temperature possibly not over 103 F. Some time during the morning the nurse removed all the gauze and washed out the vagina thoroughly with sterilized water, so that there was no longer any of the iodoform left in contact with the absorbing surfaces, and with the removal of the gauze and the use of the douche the temperature continued to go lower and the pulse was less rapid. No irrigation had been used previously. The decline was gradual both in temperature and pulse until the temperature became normal and the pulse nearly so, as low as you would expect for a patient in her condition.

Taking into consideration the history of this case, I can see nothing whatever to account for the rapid pulse and the high temperature except the iodoform. I expressed the opinion to Dr. Krim and Dr. Boyd, during the elevation of temperature the first two days, that I did not know what was the trouble; that there was certainly, so far as I could judge from my past experience, no sepsis. I stated to Dr. Krim that possibly there might be some condition of the system, or some local condition in some part of the body, where the malignant disease was causing trouble sufficient to bring about such elevation of temperature and acceleration of pulse, but if so it was beyond my power of explanation. During the first day after the operation we would not expect very much iodoform intoxication where the gauze was in the vagina, for the reason that by the constant flow of serum out of the tissues most of the iodoform would, in a very short time, be washed out of the vagina; and there would be during this time certainly not much absorption (though there would necessarily be some), the current being in the wrong direction. The exceptionally dry condition of the tongue for the first three or four days, before any of the gauze was removed, may be accounted for by some absorption, during this time, from the original gauze, and when the gauze was introduced upon three separate occasions, this dryness became increased, then the pulse and temperature developed, as I have described. On the third day, as Dr. Krim suggested, the patient had some diarrhœa the result of medication, which was checked by an opiate. The surface that absorbed the iodoform was, of course, at the upper part of the vagina, but none was in the peritoneal cavity; the upper part of the vagina being the only raw surface which came in contact with the gauze; there was nothing left in the peritoneal cavity that could cause any trouble as a foreign substance. When the operation was completed there were no open connective tissue spaces; all open spaces had been united by continued sutures and entirely closed, except one or two little points where the ligature was applied, and absorption could not go beyond that. The pelvic cavity was perfectly dry, and all oozing after the operation was from the vaginal vault. These facts were carefully observed by the nurse, and the first piece of gauze was not introduced until nearly one hundred hours after the operation. Under existing conditions I hardly see how the case could have been reported more accurately, and I am positive in my belief that the diagnosis of iodoform poisoning is correct and that no other diagnosis is any sense justified.

Malaria, without medication, does not act this way. If it had been malaria the high temperature would not have been manifest for three or four days, then subsided without treatment. As soon as we stopped the use of iodoform there was no further trouble. The only form of sepsis we could have with such a condition would be the absorption into the system through the veins and lymphatics, of toxines resulting from the growth of bacteria. We might also have had the presence of germs in the system at large. There was at no time any evidences of peritonitis, nor was there any distension of the abdomen. In arriving at a diagnosis in a case of this kind, we must do so in two ways. First by tracing the symptoms directly to certain conditions or certain things; second, by excluding all other conditions or diseases, and I have not the faintest idea what this could be, unless it be a case of iodoform poisoning. You may say that the trouble was due to some malignant condition (provided we grant that the tumor was malignant); but if this were true, the fever would not have ceased after the use of iodoform was discontinued.

Subnormal temperature is probably the rule in malignant cases, but we do sometimes have the temperature elevated above the normal. We know that some persons have a peculiar idiosyncrasy in regard to iodoform. I have in the infirmary now another patient upon whom I operated for ventral hernia two days after operating upon the case reported to-night. When this patient was first operated upon, iodoform was used upon the abdomen, and produced the most intense itching and blistering of the skin, as if it had been scalded. At the second operation, she neglected to tell any one about the effect of iodoform in the previous instance, and it was used upon the abdomen, just as I usually do in such cases, and have never experienced any trouble. Yesterday morning she said: "Doctor, the sister says there is something wrong here," and upon loosening the binder the gauze was found saturated, though it was one and one-half inches thick; the iodoform having blistered a surface at least six or eight inches in diameter, the water from these blisters having saturated the gauze. I wiped all the outer skin off, leaving a perfectly raw surface. I simply mention this case to show how susceptible some people are to the effects of iodoform.

Referring to Dr. Frank's remarks concerning a tolerance to iodoform being established. If he recalls my statement in regard to a previous case reported to this society by Dr. Schachner, I did

not intend to convey the idea that a tolerance was established; but if I remember correctly in that case the iodoform was put down into the wound, being packed into the wound from above. My idea was that if a tolerance was established, it was because there was thrown out a layer of lymph that protected the parts and prevented further absorption of the iodoform. We know that within the peritoneal cavity, protecting layers of lymph are thrown out very quickly around the drainage tube, gauze, or whatever you may have in the cavity. In the strictest sense I do not believe any case will acquire a tolerance of iodoform, though it must be admitted that the effects of iodoform in two cases, where the conditions are practically alike, will not be the same.

PARANOIA.

By F. P. Warner, M.D., Canandaigua, N. Y.

MENTAL diseases may take almost any form so that there is very little agreement among our medical authors upon the classification of this branch of medicine. The difficulty, no doubt, lies in the fact that there are so many forms and combinations that these symptoms assume, that it is often difficult to tell whether such symptoms are from some disturbance in the mind itself or whether they are from some reflex disturbance in other portions of the physical economy.

Oftentimes the earliest symptoms are purely psychal and the individual would be simply called eccentric and no one would imagine that this peculiar eccentricity would lead to a violent form of insanity, but the history of such cases shows us that the eccentric individual is above all others predisposed to some form of mental derangement. How often have we heard it said after an individual has gone insane, "Well, I have noticed his doing queer things for a long time." A case in point is that of a young man, an expert book accountant in a bank, who was so exact and quick in figures that he received constantly the commendations of the bank officials, and who yet daily after the bank had closed would stay and decorate the edges of his ledgers with all manner of fancy and colored pictures to the amusement of his fellow clerks, but who eventually became possessed with the idea that his companions in the bank detested him for such work that he tendered his resignation and in spite of the protestation of the bank officials on account of his being such an expert, gave up his position and in less than a month afterwards was a raving maniac.

This man's difficulty afterwards proved to be a mental derangement from reflex causes.

In regard to the psychal or the soul's disease, the following case came under the writer's observation. A well, strong man whose business was that of a blacksmith, was taken by a certain religious sect and impressed with the necessity for his becoming imbued with power from on high, and after ten days of constant prayer over him and laying on of hands, the power came, and after three days of the man's writhing and twisting, in and with all manner of grimaces, his spiritual advisers became alarmed, and at the first visit of the writer the man was pronounced insane, and he died the following day in the most intense agony.

The religious eccentric seems to be above all others most prone to some form of mental derangement. This may begin in the individual's first becoming possessed of the notion that the brethren of the same household are all wicked or lack in spiritual attainment, and the next thing we hear is that such an one has withdrawn and joined some sect whose ideas are more of the impulsive and fleshy natures, and in a few years we see them as mental and physical wrecks.

To return to the classification of these diseases; it is often difficult to decide where the origin of the trouble lies.

Mania may come from anger, sorrow, business losses, or it may come from fever, suppressed eruptions, loss of sleep, starvation, sunstroke, and many other derangements of the body, or a combination of both the mental and physical, so that we see there is great difficulty in classing these diseases as purely physical or psychal in character. Science has not yet produced any guides whereby we can judge of the reciprocal relations between the soul and the body, and these conditions are so intertwined and so intermixed that it is impossible to say whether a mental condition is of a psychal or somatic or bodily foundation.

Hence late authors on the subject divide into simply three heads. The (1) intellectual, the (2) conotive and the (3) emotional.

To be sure, the division does not embrace all the conditions we will meet, but it gives us sufficient basis for the grouping of symptoms and is sufficient for all practical purposes as to the treatment of the disorder.

Insanity, therefore, is an indefinable term and denotes simply an abnormal or unsound state of the mind as an exaggeration or depression of the mental faculties. In the first place the mind may become deranged in or from an excessive growth in strength of one or a group of the mind's thought, or that particular locality where exalted ideas are generated. So that fixed ideas of various kinds grow to be real and the individual is possessed of all kinds of insane notions. This is paranoia. The opposite condition would be, of course, great weakness of the mental faculties which would lead to imbecility, stupidity, dementia, idiocy, etc. The first of these two forms, or paranoia, is either inherited or acquired and takes on a chronic nature.

The main mental disorder consists of delusive ideas which develop towards constitutional neuroses, as neurasthenia, hypochondria, hysteria, and many other nervous conditions arising from any abuses of the system or perverted sexualis, intoxicants, or any of the causes enumerated above.

The acquired form is more frequent than the inherited, and is seen in females more than males, and especially about the time, or just after, the climacteric.

Paranoia has three forms. The idea of being persecuted or being of grand or rich personalities.

Second, the religious form, and third state,—of being great inventors or reformers.

In regard to the first form, of that of persecution —these victims are the ones who are unlike other people, and we call them peculiar, as they have done queer things from their childhood up. They are generally quiet, fault-finding, suspicious, irritable characters. They are sensitive, and the kind words of their best friends are transposed into sarcastic and bitter meanings. Their main idea is that the people by whom they are surrounded are conniving to make them trouble, and also saying all manner of things against them, imagining they are wronged on every hand. By degrees their surroundings change in their imagination and the ideas grow more and more upon them that they are the victims of all kinds of intrigues, and gradually these conditions change from the persecuted victim to the dignity of the moper of the universe or they plunge into imbecility or raving insanity.

Another form of this paranoia is that to which allusion was made above, the paranoia sexualis. These victims are the ones who suffer from neurasthenia, from the excesses of early youth, and are generally pale, cold and nervous in the dodromal stage and melancholic or hypochondriac in the latter stages, and in the consideration of this class of individuals, in both male and female, care should be taken that there are no exciting cause in the genetalia organ of either sex which is feeding this abnormal condition.

In regard to the religious form of this disease Kraft-Ebing says: "These individuals are almost always persons of weak minds, whose narrow understanding is not capable of grasping the ethic contents of religion, but who take the exterior glittering forms of a cultos for the essence of religion."

A case in point—that of a lady whose husband was a fine substantial business man, and who was twenty years her senior, but a firm, sensible pillar in the church, and who, during her husband's life time was given to making long, enthusiastic, earnest prayers, and soon after his death she was surrounded by an excitable religious sect, forsook the church of her husband, saying it was full of evil spirits. Soon afterwards her mind became affected and what was a little thing in the beginning grew until the reason was dethroned. In others trial and discouragement separates the mind from religious faith and throw the mind into doubt and despair. From this form of mental trouble some of the best saints of earth become the most miserable of all the earth imaginary; they believe they are forsaken of God and that their souls are to live in the abode of the lost. These are really the most difficult to restore, as this element in their lives become so real and fixed, and seems to take hold of that which is the most vital in the lives of our female population.

In regard to the inventive genius and reforming characters they are then gifted with a great deal of self esteem, one-sided and cranky individuals, and born with a tendency to nervous troubles. They live in an exalted atmosphere above their fellow beings; have great estates; make great inventions in machinery, and reform the world of many of its vices. These beings sooner or later become inmates of the asylums and live on in their flighty imaginations until imbecility changes their condition, or death closes the scene, while the religionist may from confinement, or being taken from his surroundings, be more apt to become relieved, and may be able to do some forms of work.

Now the preceding condition of all these forms of paranoia is usually what we understand by the term neurasthenia—so that the means of cure, if affected at all, must begin in this stage of the disease, before the mind becomes chronically affected.

All neurasthenics are not only physically sick, but mentally sick also, and the physician can do his best treatment for this class of cases when they are under this form of the difficulty.

The neurasthenic is generally poorly nourished, thin in flesh, and of a weak, nervous force; cold, constipated, suffering from loss of appetite and sleepless.

Here anything and all things of a reconstructive nature that can build up a broken-down body must be brought to bear upon the bodily condition and the body brought up above its lowered condition, or else the mind from anæmia and lack of nourishment must give way.

What to do for a case of paranoia depends largely upon the individual, as each case must be a law to itself, and here is where the physician is called upon to do his most careful prescribing, and where he must do everything to make a mentally and physically sick body well and strong.

This embraces careful prescribing, electricity baths, massage, feeding all the patient can possibly bear, rest, and last but not least, the mental power the physician has over his patient. Many of us are too easy with our mentally sick patients and do not do our work for them in a sufficiently commanding way. There are patients, a few of whom require much of sympathy, but a commanding and a firm way do more than the most careful prescribing of medicines.

And while I know that in the domain of hypnotism and Christian science there are many cranks and perverted enthusiasts, yet these theories properly used and applied can do much for the above class of patients. And when many of the cobwebs of these sciences shall be brushed away, and when much of the prejudice now existing shall be cleared up by a better understanding and a more scientific application of this mental force, hypnotism and Christian science will take their places among the most useful of therapeutic measures for the restoration of the mentally sick neurasthenic. Says an important writer in the *North American Review:*

"It can no longer be doubted by those who are conversant with the subject that hypnotism is a fact and has come to stay. Its phenomena are too abundant and too easily observed. It has already proved of too great utility and too many well known scientific men have pronounced in its favor and are busy working out its numerous problems to admit of its experiencing any serious decline or permanent retrograde movements."

And he further says: "My own experience in many interesting cases as well as the recorded observations of others, has led me to believe that

these possibilities have only yet begun to be appreciated, or their value and wide range of application suspected, and that the next half century will see newer, truer, more harmonious, as well as more scientific views regarding hypnotism among those who make it a study; that the prejudice on the part of the public which is a bar to its usefulness will disappear; and that new uses, therapeutic, psychic, and educational, will be discovered which will place it among the most highly prized agents for good in use among intelligent well wishers of humanity."

EMPYEMA OF THE ANTRUM.*

By Edward J. Bermingham, A.M., M.D.
Surgeon-in-Chief to the New York Throat and Nose Hospital, etc.

EMPYEMA of the antrum, often improperly called abscess of the antrum, consists of a putrid purulent secretion from the lining membrance of the cavity. It is most commonly caused by dental caries; sometimes by the extension of the inflammation of an acute rhinitis, the mucous membrane lining the antrum being continuous with the Schneiderian membrane; and occasionally by an injury. When acute it gives rise to very great suffering, the pent-up pus causing a dull aching and sense of great pressure in the cheek, with throbbing, headache, and marked constitutional disturbance. This pus may burst into the nose, through the cheek, or through the alveolar processes of the upper maxilla; and it has even been known to break through the floor of the orbit, which forms the roof of the antrum cavity. In the majority of acute cases, however, the symptoms gradually subside, and the case terminates in a chronic empyema marked by a periodical discharge of pus into the nose.

By far the larger number of cases of antrum disease which come under our observation, however, are chronic from the beginning, and give no history of an acute onset. The patient cannot fix definitely the date of the commencement of the trouble, and comes to us complaining of an offensive nasal catarrh. A careful examination of the nasal cavities shows them to be in a normal or nearly normal condition, there is no inspissated mucus, and we can detect no offensive odor. Upon questioning the patient closely we elicit the fact that the odor is noticed by him periodically only, and from one to several times daily, and that it can seldom be detected by others. Now, if we bear in mind that the antrum extends from the alveolar processes to the floor of the orbit, and that the ostium maxillare is situated about midway between these planes, we can see that the cavity would necessarily have to be half filled with fluid before any could possibly escape through this opening unless the relative position of the fluid in the cavity were changed. If the patient, therefore, be directed to lie on the lounge with the affected side uppermost, the level of the fluid will be above the opening and the fluid will escape into the nose. This will also occur if the head be held well down between the knees while the patient sits on a chair. After being in either of these positions for a minute or two, examination will reveal pus escaping through the ostium maxillare and covering the under side of the middle and upper side of the inferior turbinates. If we wipe this pus away with a pledget of cotton and place it beneath our own nostrils we will find that it is putrid. We should next proceed to examine the upper teeth from the canine tooth back, all of these being more or less in relation with the floor of the antrum. As a rule the first molar, which is generally the first tooth to decay, will be found to be diseased; or, if it is sound, one of the other teeth which may appear sound will be found to be tender upon tapping it with a steel instrument.

Electric Lamp for Transillumination.

Another diagnostic sign of value in this condition is the fact that the diseased antrum, even though it contains very little fluid, will not transmit light as readily as the sound antrum. If the room be darkened and an electric lamp of four candle power be placed in the patient's mouth and the lips closed the light will shine through the cheek, the floor of the orbit and the wall of the nasal cavity much more clearly on the sound side. This is known as the transillumination test and may be made very thorough by inspecting the parts to be examined through a tube of black paper or hard rubber.

If the disease is of recent origin and has followed a severe acute rhinitis, the patient should be taught how to thoroughly drain the antrum through the ostium maxillare by lying on the unaffected side. This should be done five or six times daily, and should be followed by the cleansing of the nose and naso-pharynx with an antiseptic and deodorizing solution,—the best being alphasol. These patients are generally anæmic, and need, in addition to local treatment, pepto-man-

* A clinical lecture delivered at the New York Throat and Nose Hospital.

gan, cold shower baths with friction of the surface, a nutritious diet, regulation of the bowels, and fresh air *ad libitum* day and night. A preparation that I have found of undoubted value not only in these cases, but wherever the general health is below par and the digestion feeble, is maltzyme with cod liver oil. It should be given in tablespoonful doses after each meal, the patient thus getting about one drachm of oil, which is, in my opinion, all that the system can appropriate at a time. In addition, the preparation is palatable and rich in diastase. If, under this treatment, the discharge does not disappear in a month or two we should not further delay an operation. In those cases, however, where we can be tolerably certain that the disease is due to dental caries, or where it has come on insidiously, we should proceed to operate at once.

Mickulicz Knife.

The choice of an operation lies between making an opening into the antrum through the inferior meatus of the nose, through the canine fossa above the teeth which are in relation with the antrum, or through the alveolar process of an extracted tooth. The object of an operation is to make an opening sufficiently large and in such a positionas to permit of thorough cleansing and medication of the cavity, and at the same time afford ample drainage. If entrance can be obtained by the extraction of a decayed tooth this operation should be chosen by all means, as it gives less inconvenience to the patient, and the opening thus made into the antrum being at its lowest point, gives the best drainage. If, however, all the teeth are sound, the next best precedure is that proposed by Mickulicz of opening through the inferior meatus of the nose. This is done by means of a spear pointed knife mounted at a right angle to the shaft. Before operating, the parts should be thoroughly anæsthetized by brushing them over carefully with a pledget of cotton wound on an applicator and soaked in a 20 per cent. solution of cocaine hydrochlorate. This application should be repeated in two minutes, and six or eight minutes additional should elapse before proceeding with the operation. This will not only give the advantage of producing complete local anæsthesia, but will in addition contract the blood vessels and give us more room. The knife should now be passed along the inferior meatus until the point is perpendicularly beneath the ostium maxillare in the middle meatus, when it should be forced upwards, backwards, and outwards through the antral wall. If the bone at this point should be found too thick or hard to be pierced by the knife, a drill such as is shown here may be used and worked either by hand or by an electric motor or dental engine, preferably, however by hand, as we then have better control of our instrument and can work cautiously. Another method, and the best if the bone is not too thick, of entering the antrum in this locality is by means of the trochar and canula here shown. The canula may be left in situ, and a soft rubber tube attached periodically for irrigation. Whatever means are used to procure an opening into the antrum at this point, its patency must be maintained either by the introduction of a drainage tube or by the daily plugging of the opening with iodoform gauze. Either of these methods will be extremely disagreeable for the patient and troublesome to the surgeon because of the inaccessibility of the opening and the small size of the nasal cavity, which may be reduced even more by a deviated septum or a hypertrophied turbinate.

Cohen's Antrum Drill.

Trochar and Canula used for Entering Antrum through Nose.

Should the operation of opening through the canine fossa be determined on, it is done by turning the upper lip upward and outward, making an incision with a bistoury down to the bone about three-quarters of an inch above the margin of the gum, and then entering the antrum with the hand antrum drill here shown, over the second bicuspid or first or second molar tooth. This operation does not afford as thorough drainage as that through the alveolar process, and, unless the opening is large, there will be difficulty in preventing it from closing.

Hand Antrum Drill.

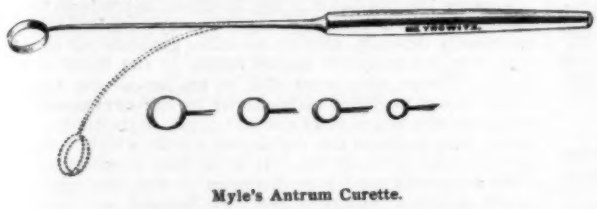
Unless there exists some decided objection to entering the antrum through the socket of an extracted tooth, and the only serious objection is the sacrifice of a perfectly sound tooth, this is the ope-

ration that should be selected. It is best to have the tooth extracted under nitrous oxide the day preceding the operation. The patient should be etherized and the floor of the antrum may then be perforated by introducing the hand antrum drill through the socket of the extracted tooth and turning it firmly, but cautiously, until there is an absence of resistance. The drill should then be withdrawn at once that we may not damage the antral walls or even pierce the floor of the orbit, as has been done. The Bosworth drainage tube

Bosworth Drainage Tube.

should now be inserted, and held in place by fastening it with a piece of silk to the adjacent tooth.

Whatever means we may adopt to effect an opening into the antrum, as soon as it is accomplished the cavity should be carefully explored to discover any abnormalities, foreign substances or necrosed bone. Should any be found, Myle's



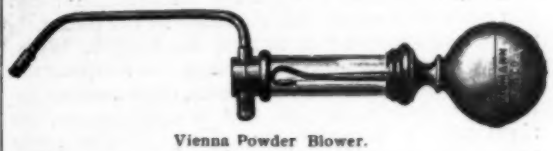
Myle's Antrum Curette.

antrum curette, which is flexible and can therefore be adapted to any of the antral walls, is the best instrument for clearing the cavity. It should now be washed out with tepid sterilized water and the drainage tube allowed to remain open for a couple of days, flushing frequently with sterilized water. If the discharge is profuse a small rubber plug may be used to close the drainage tube except when irrigating, but if there be but slight discharge it will only be necessary to do this when the patient is partaking of food.

The after treatment consists in thorough irrigation of the cavity with an antiseptic solution from one to three times daily, according to the amount of purulent secretion. This is best effected by means of Myle's flexible silver antrum tube,

Myle's Flexible Silver Antrum Tube.

which should be passed through the drainage tube into the antrum, and connected by a piece of flexible rubber tubing to a fountain syringe. A steady stream should be poured through this into the antrum and allowed to escape through the ostium maxillare by holding the head down and with the affected side turned upwards. This irrigation should be continued until the solution comes away clear. Once daily, after this thorough cleansing, and after having allowed sufficient time for any surplus fluid to drain away, the cavity should be insufflated with powdered iodoform. This may be best accomplished by a small, soft rubber tube passed through the drainage tube and attached to a Vienna powder blower. The drain-



Vienna Powder Blower.

age tube should not be finally removed until there is an absence of all discharge from the cavity, which will occur in from one to twelve months, according to the severity and previous duration of the disease and the constitution of the patient. After its removal the opening into the antrum will readily close.

Here is a patient upon whom we operated about seven months ago, and who has come here to-day by request that we might see the result of treatment in his case. When he first consulted us he complained of having a bad odor periodically in the left nostril, for which he sought relief. Upon examination we found no stenosis of the nasal cavities, and but slight hypertrophic naso-pharyngitis. There was slight tenderness on percussion over the left superior maxilla and upon all the upper molars of the same side. There was no discharge from the ostium maxillare after the patient had held his head between his knees for five minutes; but as light was transmitted very badly through the left antrum, we felt justified in making a diagnosis of empyema of the antrum, and the patient readily consented to an operation for its relief. The first molar on the affected side was removed and the antrum entered by drilling through the alveolar process and a drainage tube inserted. The cavity was thoroughly irrigated and then insufflated with iodoform in the manner just described twice a day for about three weeks, after which once daily sufficed for six weeks longer, when, there being no further discharge, the tube was removed and the opening in the alveolus allowed to close. He has had no further trouble.

To-day we have a somewhat similar case. The patient comes to us complaining of an intermittent bad odor in the right nostril, which is so offensive as to be noticeable to those near him. You see upon examination that the nasal cavities are in a very healthy condition; they are roomy and the mucous membrane is moist and clean. Now we direct the patient to hold the head with the affected side upwards, down between the knees for two minutes, and upon re-examining we find the left side still perfectly clean as before, while on the right there is a moderately thick, profuse discharge, filling the middle meatus and covering the inferior turbinate. We wipe this away with a pledget of cotton and find it to have a very disagreeable purulent odor. There is no pain upon percussion or pressure over the superior maxilla, and his teeth are all sound except the first upper molar on the affected side, which had been filled with amlagam about a year and a half ago, and

which was removed yesterday as a preliminary step in the operation. Percussion on the remaining teeth with a steel instrument causes no pain or soreness, nor did it with the first molar before removal. We now completely darken the room and place this small electric lamp in the patient's mouth, and direct him to close his mouth. When the current is turned on the light is transmitted through the tissues of the cheeks, nose and orbits, but less clearly, as you will readily see on the right side. I here show you the tooth which was removed yesterday, and which has been thoroughly cleansed, the crown of which is two-thirds amalgam. It is particularly to the palatine fang that I wish to direct your attention. Here you will find a small carious spot not more than one-thirty-second of an inch in diameter, but which is undoubtedly the source of all the patient's trouble. The patient now being etherized, we pass this burr into the socket of this palatine fang, and about a dozen revolutions with gentle but firm pressure brings us into the antrum, of which we are appraised by the absence of resistance. Withdrawing the drill, I now pass in this probe and explore the antrum carefully and gently for foreign substances, growths, or carious bone, but not finding any abnormality, I wash it out with sterilized water and insert this silver drainage tube. The operation is completed by fixing this tube in place by tying it to the adjacent molar.

34 West Forty-Fifth Street, New York.

Increase of Insanity and Consumption Among the Negro opulation of the South Since the War.* Statistics gathered from the Superintendents of Southern hospitals for the insane show that both insanity and pulmonary consumption increased disproportionately among the negroes of that section of our country since the close of the civil war. Thus, according to the United States census, there were in 1860 only 44 insane negroes in the State of Georgia; in 1870 there were 129; in 1880, 411; and in 1890, 910. In North Carolina there were in 1880 91 colored insane; in 1885, 144; in 1890, 244; in 1895, 307; and in 1896, 370. In Virginia before 1865 there were about 60 insane negroes in the asylums of that State, and now there are over 1,000. In the Eastern Hospital for the Colored Insane in North Carolina, consumption caused 14 per cent. of the total number of deaths in 1884, while in 1895 it produced 27 per cent. of all the deaths, and this in spite of a reduced general mortality rate. In the Mississippi Lunatic Asylum from 1892 to 1896 consumption caused 42 per cent. of the total number of deaths among the negroes, or an increase of 22 per cent. over the death rate from this disease among the white population outside of hospitals for the insane (it of course, being well known that insanity predisposes to phthisis), if the latter is estimated at 20 per cent. In the Alabama Insane Hospital during three years and nine months, beginning Oct. 1, 1890, there occurred 295 deaths among 1,700 white and negro patients. Of the 179 deaths among the white patients 28 per cent. were due to tuberculosis, and of the 116 deaths among the negroes, 42 per cent. were due to the same disease.

From this and other evidence which is presented, it is concluded that both of these diseases have disproportionately increased since the war and that in all probability the causes which led to one also led to the other disease. The writer holds that the cause of phthisis resides in a disintegrated nervous system, and cites a number of concurrent authorities, as well as clinical and pathological data, to prove his position; and, among other conclusions, he draws the following, that both consumption and insanity are closely allied, both in personal and in family history, to idiocy, hysteria, epilepsy, asthma and to other diseases of the brain and spinal cord, and that they are both produced by syphilis, alcohol, overwork, business vicissitudes, domestic trouble, mental anxiety, grief, disappointment and excesses of all sorts—in fact, by any agent or influence which vititates the brain or nervous system, and that those who are confronted by a new and higher civilization and who are compelled to adjust themselves to these new relations are excessively liable to fall victims to insanity and pulmonary phthisis.

The condition of the negro is viewed from these premises. Civilization is regarded as an accumulation of force, and the older the civilization, the greater its momentum and the higher its plane; and when a lower civilization is precipitated in the midst of a higher, as in the case of the negro, it is the throwing together of two forces which differ in power and in rate of motion. The lower, in order to preserve itself, must make an effort to adjust itself to the course and changes of the higher movement, and the strain which is occasioned by this effort of adaptation falls on and vitiates the brain and nervous system, and this in turn gives rise to insanity and phthisis. The vices of alcoholism and syphilis, which are readily acquired by these people, accelerate the advent of these diseases by destroying the integrity of the brain and nervous system.

Viewing the condition of the Southern negro from these standpoints, it is perfectly obvious why insanity should necessarily develop, and on no other grounds can we explain why consumption should follow in the wake of insanity. Those who were able to realize all the factors which would be called into activity by the environmental change of the negro after the war could, at the time it was made, have foretold the inevitable results which are now but too plain to every one. It is in part a repetition of what happened, and now happens, to the aborigines of North America, Australia, and New Zealand, who in their unequal warfare with modern civilization have been and are being fast decimated and exterminated by pulmonary phthisis.

* Abstract of a paper by Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic, and Visiting Physician to the Rush Hospital for Consumption in Philadelphia. (Read before the Section of Neurology and Medical Jurisprudence of the American Medical Asscoiation, June 3, 1897.

The Treatment of Fractures.—Dr. W. L. Estes, in an article on the treatment of fractures, in the *Internat. Jour. of Surgery*, says:

1. Unless a fragment is threatening to break through the skin the fracture should never be reduced except by the physician, and then only when apparatus is at hand to keep the parts in permanent apposition.

2. Men carrying an injured person should not keep step, as the jar to the wounded part is much greater.

3. Strychnia for shock, morphia for pain, but no alcohol.

4. Always give anæsthetics for reduction of a simple fracture. It is better and easier to reduce and set compound fractures without anæsthesia.

5. It is very rarely necessary to make a patient go through the double agony of temporary and permanent setting of the broken bones.

6. In simple fracture gentle rubbing of the ends will assist in getting rid of shreds of tissue which invariably are caught there.

7. Nowadays a surgeon will rarely be satisfied that a bone is properly set, until verified by the X-Rays.

8. Plastic splints, preferably plaster-of-paris, are surely the best apparatus when they can be applied.

9. Ambulant treatment is coming more into vogue. No simple fractures require constant confinement to bed, except of the innominata and upper third of the femur.

10. It is not necessary and sometimes very harmful to wait for swelling to disappear before putting on a permanent dressing.

11. A well-applied splint with good apposition of fragments should not be removed too early. It is not necessary to apply massage early in ordinary cases.

12. Proper time for massage is two or three weeks after fracture of upper extremities and four or five weeks for lower extremities—if the bones are slow to unite firmly.

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ROBERT GUERNSEY, M. D. ALFRED KIMBALL HILLS, M. D

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"The secret of genius is to suffer no fiction to exist for us; to realize all that we know; in the high refinement of modern life, in arts, in sciences, in books, in men, to exact good faith, reality, and a purpose; and first, last, midst, and without end to honor every truth by use."

HOSPITAL MANAGEMENT.

THERE is no lack of hospitals in this city to meet the demands of every specialty and to give aid in roomy wards and in private rooms to all who may need their service. The buildings are generally well constructed, an ornament to the city cleanly in every department, and well supplied with nutritious and acceptable food. For all this we are indebted in a great measure to trustees, who bring the strict business rules which have enabled them to mount the ladder of fortune with sure steps, to their work of charity, and to ladies' aid associations connected with nearly all private hospitals, who generally furnish most of the money for the support of charity beds, and naturally carry into the domestic management of the hospital the practices which have made their own homes comfortable. "Any one can run a hospital," said a distinguished business man whose every venture in strictly commercial lines had been a marked success, and who was noted for his broad and liberal spirit and his general intelligence outside of his special work. "Running a hospital is very much like running a hotel visited by medical men." But the management of a hospital is by no means like running a hotel. A hospital is for the cure of the sick, and the service must be adapted to meet certain mental and physical conditions which no mechanical, mercantile or financial training can possibly fully understand, and no simple housewife, however skilled she may be in the management of her household, is at all times fully qualified to meet. If special qualities are required in any successful business enterprise and to meet the peculiar exigencies of every home, can there be any question that in the management of the sick special training and technical fitness are absolutely essential in hospital management? The financial affairs of an institution call for financial ability, but let it be remembered the very life of a hospital depends upon the ability of its medical men much more than upon the simple business capacity of its lay manager. It is to the medical men we are to look for the success, the popularity and the good which is accomplished, and the more the hospital in its medical and surgical management is under their direct control, the lower will be the death rate, the larger the number of cures, and the greater the advantage to the profession and to the public in the practical truths brought out within its walls. Every hospital is to a certain extent a clinical school, from which the public derive inestimable advantages from the opportunity medical men have to study every phase of disease, to watch every symptom, to compare one case with another, the action of one remedy with another, with the assistance of thoroughly trained help, and the most exact discipline. It is the physician who is in close touch with his patient and whose orders should be obeyed to the letter. The trustees have their own work to do in the strictly business details of the hospital, and the ladies in its domestic affairs. Let them both attend to their legitimate work, remembering that in the sick room the medical staff should be supreme. In Europe always, and in this country with some exceptions, the superintendent is a physician, and medical men, whose professional training, expert knowledge and skill are most competent to mould the understanding of unskilled laymen as to hospital matters, are included in the board of trustees, and always to the great benefit of the institution. The practical knowledge of the physician representing the medical staff, who perform the essential work of the hospital in touch with and forming a part of the governing boards of the hospital, is absolutely essential to secure the harmonious working and the best interests of the institution. Very recently it was publicly stated by the president of the commission of charities, who have under their control the great charity hospitals of the city, that the Metropolitan hospital on Blackwell's Island, the third largest hospital under their care, outranked in discipline and in efficient work any of the other hospitals. And the reason given was that the general and minute management of the hospital was under the care of a painstaking and efficient body of physicians,

with a physician as superintendent of rare executive abilities, fully up in all the details of his profession, and a committee of the medical board watching over every department of the hospital. The hospital was managed by medical men working in perfect harmony, and very seldom finding it necessary to refer anything in the medical management of the hospital to the supreme authorities. What has been accomplished in this great city hospital, with its several hundred beds, could be with even more ease produced in any of the private hospitals of the city by following out a similar plan How much this plan of unity of work, all the departments in intelligent touch with each other, would do away with heart burnings and bitterness of feeling a fair trial could alone reveal.

INJECTIONS OF ALCOHOL IN CARCINOMA.

A DETAILED description and careful estimate of the results thus far obtained from the treatment of cancer by injections of alcohol, is given by Sajous, in the *Monthly Cyclopædia of Practical Medicine* for January. Beginning with the eighteen cases of mammary carcinoma treated by Hasse twenty years ago—with fifteen complete cures and no recurrence—the survey closes with Kuhs, recently reported cure of primary cancer of the naso-pharynx. The author decides that this last case, added to the others, "establishes alcohol on a basis seldom equaled by any agent proposed. It is safe to state that if tuberculin had had to its credit but half of the *bona fide* points already noted in favor of alcohol in the treatment of cancer, it could have withstood the test of time." The remedy acts by forming a connective-tissue capsule around each growth, causing obliteration of the blood vessels and contraction of the neoplastic tissues. According to Hasse, the effect on the general health is even more surprising. The pain and uneasiness pass away, and sleep, appetite, assimilation and strength return in a most remarkable manner. By employing alcohol in different varieties of tumor, rapid reduction in the size of the growth has been produced, but it was found that if too much be injected at one time, sloughing of the growth and general intoxication of the subject will follow. To secure a successful result, the treatment must be carefully conducted.

In the cases reported as cured by him, Hasse injected a mixture of thirty parts of absolute alcohol to seventy parts of water twice a week around the tumor, as well as into any infiltrated glands. The quantity injected varied according to the size of the neoplasm, and sometimes reached twenty Pravaz syringefuls. The only inconvenience observed was pain (for which local or even general anæsthesia might be resorted to) and, occasionally, slight intoxication. In order to avoid making the injection into a blood vessel, Hasse inserted the syringe-needle deep into the tissues, then unfastened it, leaving the canula in place. He then waited a moment; if the blood did not issue from the canula he readapted the syringe and made the injection; but, if blood did flow out, he removed the needle and made another puncture elsewhere. Under the influence of these injections the tumor diminished in size and soon became less painful. The treatment should be continued for some time after apparent cure, at intervals more and more prolonged.

In conclusion, an earnest plea is advanced that alcohol be given the faithful trial in this affection which it seems to merit.

ALCOHOL CONSUMPTION.

A DISTINGUISHED scientist has stated that the conquering races of the world are those who consume alcohol as a stimulant in preference to any other. Bismarck is quoted as classfying alcoholic stimulants in their use as, beer for women, wine for men, and brandy for heroes. There is no doubt of the fact that there is more distilled liquor consumed in the colder northern countries than in the southern where, among the Latin races, wine and beer are the favorite stimulants. A few facts in reference to the consumption of the three great intoxicants, classed under the head of alcoholic beverages, may be of interest. In 1895 there was not half a gallon of wine per head sold in the United Kingdom, while in the United States a still less quantity was consumed. In Germany, a wine growing country, the consumption of wine was only a gallon a head. In France the consumption of wine averages a gallon each person, and in Italy and Spain only a little less.

The greatest consumer of beer is Bavaria, averaging fifty gallons each person; then follows Germany with forty-two gallons per head, England with thirty gallons, United States fifteen gallons and France five gallons per head. Contrary to the general opinion the consumption of beer in the United States, taking into consideration the increase of population, has not perceptibly increased during the past ten years, while that of wine and spirits has been signally diminished. In England the consumption of distilled liquors was about a gallon a head. The Dutch and Belgians drink twice as much distilled liquor as the English; mostly in the form of gin. The French, who are the greatest wine drinkers in the world, are also the largest consumer of ardent spirits, with per-

haps the exception of the Danes. The tax upon alcohol in one way or other in the form of beer, spirits and wine constitute in a large degree the national revenue. In England this tax amounts to 35 per cent. of the national income and in the United States 30 per cent.

The fact that during the past ten years while there has been no increase in the sale of wines and beer, in proportion to the population, and a positive decrease in the use of distilled spirits, as a beverage, especially in the army, and in the form of mixed drinks sold at the bar, is a matter of congratulation, and is undoubtedly one great factor in the decreased death rate which has been so marked as to attract attention.

CHOLECYSTOSTOMY.

CARL BECK, in a paper on this subject, reprinted from the *New York Medical Journal*, May 8, 1897, states that "If the most minute aseptic precautions are taken, the mortality rate of simple cholecystostomy is very low. Hans Kehr, who reported two hundred and six laparotomies for cholelithiasis at the last congress of the German Surgical Society, did not lose a single patient in a hundred and twenty-six subsequent cholecystostomies. Such numbers speak loud in favor of early surgical interference, and it may safely be maintained that the dangers of the disease are greater than those of the operation. I have lost none of my patients in non-complicated cases."

In summing up, he advises the operation as follows:

1. Whenever the diagnosis of acute cholecystitis is made, cholecystostomy should be performed without delay.
2. Cholecystostomy should also be performed in chronic hydrops of the gall-bladder.
3. Whenever acute colicky attacks in the region of the gall-bladder, combined with fever, return for a second or third time.
4. Whenever jaundice is present for more than four weeks.
5. In gallstone ileus.
6. In all obscure cases where inflammatory symptoms in the region of the gall-bladder resembling peritonitis turn up, exploratory laparotomy is indicated.

DR. WISE, the cultured and efficient president of the Commission of Lunacy, in a recent paper called attention to the lack of intelligent instruction in our medical colleges upon mental diseases. In calling attention to the treatment of insanity he made special reference to the danger of narcotics in the early treatment, and to the disaster which had too often been paid for quiet. The present methods of treating the insane in our hospitals was founded upon the removal of toxines and all nervous irritants, the improvement of the general health, and the development of the body to a normal condition of resistance. The policy of the state government was based on the fact that every insane patient cured meant a saving to the state of the maintainance of one person for twelve years—the average duration of insane life.

DR. JOHNSON of Titusville, calls attention to the use of atropine in uterine hemorrhage, which he places next in importance to ergot. With this drug given in the 200th of a grain every two hours, he has controlled severe forms of uterine hemorrhage which other agents had failed to check. In small doses atropine undoubtedly acts as a stimulant to the vasomotor centers, but like ergot, it seems to have a specific action in some way not understood upon the womb. Brown-Secard, in his physiological experiments, found that the action of ergot and belladonna upon the spinal cord was almost precisely alike.

SENATOR WETMORE, from the joint committee on the library, has made a favorable report with amendments on a joint resolution authorizing the erection of a statue of Samuel Hahnemann, in such place in the city of Washington as may be designated by the officer in charge of the new library, the joint committee on the library and the chairman of the monument committee. The joint resolution is amended to prohibit the erection of this statue in either the Capitol or Library grounds. An appropriation of $4,000 for the building of a foundation for the statue is provided for.

A WOMAN in Toronto has recently, at the age of sixty years, given birth to her twenty-second child, her husband being seventy-eight years of age. A woman in Oklahoma has gone the Toronto woman one better, and at the age of sixty-five gives birth to a healthy girl. But the male sex can boast a still later fruitage, as there are on record cases where men have become fathers at the age of ninety, and even one hundred years. One in the Tyrol married at eighty-two, and became the undoubted father of seven children.

A COMMUNICATION from Dr. Morris addressed to Dr. Terry upon the subject of appendicitis in connection with their previous correspondence in *The Times*, will require so much time in the collection of the facts called for by Dr. Morris, that the matter will be deferred to our April issue, where the letter of Dr. Morris and the reply of Dr. Terry will be published together.

DR. GEORGE HOPKINS PETERS, of Peekskill, claims to have treated a large number of cases of consumption with a new toxine which is prepared on lines similar to Dr. Koch's latest preparation of tuberculine. It is not given hypodermically, and produces only slight reaction and in some cases none at all. The cases quoted by Dr. Peters, and his standing in the profession, entitle his statements to careful consideration.

A CHILD'S PRAYER.—A sweet little girl, while kneeling by her mother's knee to say her nightly prayer, was accustomed to unburden her heart to Jesus with all its troubles. One evening with her clasped hands uplifted she said: "Blessed Jesus, please make me a little brother, a real live one for me to play with." Not long after her grandmother, to whom she had given the loving name of Amo, said, "I should not wonder if a little brother would come pretty soon." After waiting what she thought was a long time, she said in her evening prayer in a pleading voice, with her eyes turned to heaven and her clasped hands uplifted, "Blessed Jesus, haven't you nearly done making little brother? Please hurry, for my dolls are all broken and won't close their eyes or cry any more." The speedy arrival of the boy brought thanksgiving to Jesus that he had hurried the finishing touches at her request.

DR. PAUL E. ARCHINARD, of the Louisana State Board of Health, in a large proportion of the patients examined in the recent yellow fever epidemics found the Sanarelli germ. By means of the ridal test, he also found in many instances dengue and yellow fever occurred coincidentally in the same individual, showing their near kinship.

The Ninth International Congress of Hygiene and Demography, under the patronage of His Majesty King Alfonso XIII., and Her Majesty the Queen Regent, will be held in Madrid, Spain, April, 10-17, 1898. A long and interesting programme has been arranged. Readers who are interested should address Dr. Amalio Gimeno for particulars.

BIBLIOGRAPHICAL.

The 1898 edition of the Year-Book edited by Dr. George M. Gould is now out. Our readers who are in quest for books should send for a copy of this bulletin.

STUDIES FROM THE YALE PSYCHOLOGICAL LABORATORY.—Edited by Edward W. Scripture, Ph.D., Instructor in Experimental Psychology. Vol. IV. Yale University, New Haven, Conn. Price $1.

Contents: Reaction-time in abnormal conditions of the nervous system; researches on reaction-time; influence of the rate of change upon the perception of differences in pressure and weight; Weber's law in illusions; researches on voluntary effort; new apparatus and methods; elementary course in psychological measurements.

NERVOUS DISEASES WITH HOMŒOPATHIC TREATMENT.—By Joseph T. O'Conner, M.D., Ph.D. Illustrated. New York: Boericke, Runyon & Emsly. 1898.

The work of Prof. O'Connor is an amplification of the descriptive part of his college lectures, with a condensation of the anatomical details introductory to them. As the lectures are for students and practitioners of homeopathy, other methods are not given except as allusion in cases not amenable to homeopathic treatment. The work, written in classic style, is full of practical suggestion to men of all schools.

THE MONTHLY CYCLOPÆDIA OF PRACTICAL MEDICINE is a continuation of the "Universal Medical Journal," an ally of the "Annual of the Universal Medical Sciences," for some years so ably edited by Dr. Sajons. The "Annual," which has been published for ten years, is to be changed and improved. Instead of presenting the excerpts from the year's literature arranged as they have been, each disease is fully described, including any new features which may have appeared during the year. This will save valuable time.

THE PRACTICE OF SURGERY. By Drs. Wharton and Curtis.

It is a great pleasure to turn over the leaves of a book containing so much good surgery as the one under notice. The names of the authors are a good guarantee for the excellence of the book, for each has won by successful work, a high place in his specialty. We believe the idea has been well carried out to give in the briefest possible way the most practical information in regard to the cut of surgery to the present time. The information desired is placed before the reader in a clear, terse style, calculated to save time just when it is most desirable.

We would suggest, however, that the operation for excision of the rectum is not the best one. Whitehead's is the only one given. Place the American operation before your readers. It is in our estimation much the best. The medical treatment of appendicitis had better been left out, but we hope the author will bring it down to date in the next edition. In vaginal hysterectomy we believe it is safer to recommend that after opening Douglas' cul-de-sac, as well as after separating the bladder, that the vaginal and peritoneal tissue be brought together by sutures. Under the head of anasthesia we fail to see Northups' method of mixing oxygen with chloroform which makes it comparatively safe. It is seldom we see a work in which there is so much to praise and so little to cut as this.

A SYSTEM OF PRACTICAL MEDICINE. By American Authors. Edited by Alfred Lee Loomis, M. D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M. D., Profesor of Medicine in the New York University. To be completed in four imperial octavo volumes, containing from 900 to 1,000 pages each, fully illustrated in colors and in black. Volume III.—Diseases of the Alimentary Canal, Peritoneum, Liver and Gall Bladder, Spleen, Pancreas and Thyroid Gland, Chronic Metal Poisoning, Alcoholism, Morphinism, Infectious Diseases Common to Man

and animals, Miscellaneous Subjects. For sale by subscription. Per volume, cloth, $5.00; Leather, $6.00; Half Morocco, $7.00. Lea Brothers & Co., Publishers, Philadelphia and New York, 1898.

This great and representative system of practical medicine goes regularly and rapidly on towards completion. Of the four large volumes of which it will consist, the third is just at hand, covering a wide range of subjects. The corps of contributors number eighteen of the ablest authorities of America, and their articles may safely be consulted for a complete statement of each subject in its practical bearings according to the most modern knowledge. Full therapeutic directions form a feature of the system and engravings and plates are introduced wherever they can be of service. As illustrative of these features the article on Cretinism and Myxœdema may be instanced, containing as it does many sets of serial photographs showing stages of these diseases and the improvement effected by the prescription of thyroid products according to the directions given. The work is one of the utmost service, not only to the general practitioner, but to the medical specialist as well. The fourth and final volume is in press for early issue.

NEW YORK CHARITIES DIRECTORY. A classified and descriptive Directory to the Philanthropic, Educational and Religious Resources of the City of New York, including the Boroughs of Manhattan, Brooklyn, Bronx, Queens and Richmond. Eighth edition; pp. 665; 12mo. Published by the Charity Organization Society, 105 East 22d St., 1898.

ORTHOPEDIC SURGERY. By James E. Moore, M.D.; Professor of Orthopedia and of Clinical Surgery in the College of Medicine of the University of Minnesota, Fellow of the American Surgical Association, Member of the American Orthopedic Association, Surgeon to St. Barnabas' Hospital, Consulting Surgeon to the Northwestern Hospital for Women and Children, to St. Mary's Hospital and to the City Hospital, Minneapolis, Minn. With 177 illustrations. Philadelphia: W. B. Saunders, 1898; octavo; pp. 354; $2.50 net.

The author has attempted to make a practical book, based upon a large experience; he lays much stress upon early diagnosis, and has tried to adapt his treatment to the general practitioner. He shows the middle ground between the extremes of operation and non-operation.

The student and the general practitioner will both find the volume of practical interest.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY: Being a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, and textbooks of the leading American and foreign authors and investigators. Collected and arranged with critical editorial comments by eminent American specialists and teachers. Under the general editorial charge of George M. Gould, M. D. One volume of nearly 1,200 pages, profusely illustrated with numerous wood-cuts in text, and thirty-three handsome halftone and colored plates. Prices: cloth, $6.50 net; half-morocco, $7.50 net. Philadelphia: W. B. Saunders, 1898.

"The design of this work is to give in a compact form an epitome of the new and progressive medical truths or suggestions published during the preceding year. A work that places before the physician in convenient form an epitomization of this literature by persons competent to pronounce upon the value of a discovery or of a method of treatment cannot but command his highest appreciation. It is this critical and judicial function that will be assumed by the editorial staff of 'Saunders' American Year-Book of Medicine and Surgery,' in reviewing not only recent monographs and the contributions to American journals, but also the methods and discoveries reported in the leading medical journals of Europe."

The foregoing statement from the announcement of this great work cannot be improved upon, so we will adopt it as our own. The book must have been well-received by the profession, or a third issue would not have been called for. We observe numerous changes in the volume before us which cannot fail to enhance its value. The text is carefully prepared and it is arranged in a practical manner by competent hands.

It will be found an aid to the teacher, to the practitioner, and to the author. It is a treasury of medical information will save valuable time and has a complete index, the whole forming a grand yearly post-graduate course, enabling the student to keep abreast of the times in the easiest possible way.

The well-known standing of the editor is sufficient guarantee that the work has been properly done.

Other books which will soon appear are Van Valsah and Nisbet's Diseases of the Stomach, Keen's Surgical Complications and Sequel's of Tpyhoid Fever and Dr. Chapin's Compendium of Insanity.

HOSPITAL REPORTS.

CIRCUMCISION.

THE METROPOLITAN HOSPITAL OPERATION.

(Service of Dr. Bukk G. Carleton.)

Numerous methods and modifications have been suggested in this old surgical operation, which for religious or hygienic reasons has been handed down through the ages. During the past year, in my service as Genito-Urinary Surgeon to the Metropolitan Hospital, there have been fifty adult circumcisions. As they have been very successful, all, with two exceptions, closing by primary union, it has been thought that the methods usually employed might be of interest to our readers.

The mons veneris and surrounding parts are shaved and made aseptic, before the patient is taken to the operating room. Then the parts are again thoroughly washed with hot soap suds; the preputial sac, etc., made aseptic by means of a bi-chloride douche 1 to 3,000; and the urethra douche with a warm, saturated solution of boric acid; the penis is then passed through a small opening in the center of a dry sterile towel, or sterilized towels are laid round the penis, covering the abdomen and thighs. A sterile No. 15 French elastic rubber catheter is tied around the root of the penis to inhibit the return circulation; then, with a sterilized hypodermic syringe, 20 to 25 drops of a 4 per cent sterilized cocaine solution is injected into the connective tissue encircling the penis in front of the catheter, producing a bleb-like circle. In about five minutes anæsthesia of the distal end of the penis is complete. The point of union of the integument and mucous membrane at the junction of the frenum and raphae is then grasped and firmly held by a pair of clips, and the skin and mucous membrane at the median dorsal point are grasped in the same manner. The clips are now raised by an assistant. the foreskin and the glans penis pushed back; the prepuce is then transfixed in the center with a sharp-pointed bistoury, the blade being introduced parallel with the broad surface of the glans, and the incision carried obliquely outward and downward, care being taken to avoid injury to the glans and to leave sufficient length to the frenum; then, with a pair of curved scissors, the preputial skin is removed, cutting upwards and backward on a line corresponding with the corona glans, giving a proper sized preputial opening. The mucous membrane is then removed, leaving from a quarter to a third of an inch, and finally the third or connective tissue layer between the mucous membrane and the integument. If this is neglected, some induration and thickening along the line of union is liable to occur, requiring months for absorption. The parts may be treated by the dry or wet aseptic method. The catheter encircling the penis is then released, but should not be removed entirely, as it may be necessary to use it in regulating the entrance of the cocaine into the general system. Bleeding points are properly secured, either by cat-gut ligatures, torsion, or hot water; and the parts carefully approximated with interrupted black silk, or a continuous cat-gut suture. The line of union should be dusted with iodoform or glutol, then encircled with two thicknesses of iodoform gauze, five or six inches in length and one inch wide, the ends

overlapping across the dorsum of the penis. This piece of gauze should be properly trimmed with a pair of curved scissors, to fit around the glans penis. Over this place a piece of borated gauze, cut in the shape of a Maltese cross, with a small slit in the center, of sufficient size to allow about two-thirds of the glans to appear through it, and not to obstruct the exit of the urine through the meatus urinarious. Over this a piece of gutta percha tissue, of the same shape, all held in place by a roller bandage. If for any reason there should be some oozing of blood, the bandage may be applied quite snug for some hours, and then re-applied without disturbing the original dressing. If proper care is taken by the patient, to hold the dressing well back during micturition, and to remove the final drops with a pledget of absorbing cotton, the dressing will remain clean and will not require attention until the sixth or seventh day, when the sutures should be removed, the parts dusted with the proper antiseptic powder, and lightly bandaged with borated gauze. If the glans is especially sensitive, it would be well to protect the parts for a few weeks with a piece of boric acid gauze, held in place by a loose elastic band.

When the patient is extremely nervous or recovering from an alcoholic debauch, cocaine must be used with extreme care, and only allowed to pass very slowly into the general system. If cocaine symptoms appear, the catheter surrounding the penis should be re-applied for a few moments. If cocaine symptoms become prominent, drop doses of the tincture of aconite every fifteen minutes, and possibly a hypodermic of a one-hundredth of a grain of nitro-glycerine may be required to antidote the effect upon the general circulation and respiration. But, as a rule, if an ounce of whisky is administered, as the operation commences, the cocaine will produce no systemic effects. If the cocaine is properly sterilized, its anaesthetic effect will be perfect, and no local destruction of the tissue will follow, if proper asepsis is observed. The introduction of the cocaine at the base of the penis prevents deformity at the line of incision. The removal of the cellular tissue prevents the hard oedema along the line of union. which is so common in many cases of circumcision, and which requires months to be absorbed.

This operation makes each case an entity, and short frena are avoided. The line of incision is made in conformity with the contour of the glans, and secondary phimosis is avoided. When sufficient mucous membrane is not removed, it is liable to fold back into the preputial space and cause much irritation and annoyance. One quarter of an inch is sufficient for proper introduction of sutures, though this may vary somewhat with the conditions which have necessitated the operation. Black silk interrupted sutures have given the most satisfactory results. All bleeding points in the cellular tissue must be properly ligated before closure of the wound.

THE MEDICAL EXCURSION IN JUNE TO DENVER AND SALT LAKE CITY.

The American Medical Association meets at Denver June 9th to 10th. One of the features of the gathering will be an excursion from Denver to Salt Lake City and return via the D. & R. G., Colorado Midland and Rio Grande Western Railways, through the "Heart of the Rockies," furnishing a splendid opportunity to view the most magnificent scenery on the American continent. Salt Lake City is an ideal summer resort, and the bathing at Saltair in the Great Salt Lake—inland salt sea nearly a mile above sea level—is superb in June. There are more attractions in and about Salt Lake City than any place in the world. Later notice will appear in this publication giving rates for this excursion and all details. In the meantime send to F. A. Wadleigh, G. P. A., Rio Grande Western Railway, Salt Lake City, for copy of pamphlets on Salt Lake City and the Rocky Mountains.

Dr. W. X. Sudduth, of Chicago, has been appointed corresponding editor for this country of the "International Review of Neurology and Hypnology," to be published in Paris, France. We congratulate the management upon the acquisition of Dr. Sudduth, who is amply able to fill the requirements of the position.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

Voluntary Procreation of the Sexes.—The political journals have announced that M. Schenck, of Vienna, has discovered an infallible method for creating at will either a male or female. This process is based upon alimentation, and the communications of M. Schenck have, as yet, been given only to reporters. Every time that the announcement has been made to a foreign country, it has been favorably received in France, and a young savant, who has been preoccupied with this question, M. Dantec, made haste to give his ideas concerning it in the archives of the Academy of Sciences, so as to establish his priority, and they were presented in the name of M. Dantec by M. Perrier, the sympathetic professor of the Museum. M. Dantec thinks that the sex is regulated by and due to the quantity of hemiadric substances that compose the organism. The male sex, for example, will be constituted of substances that incline to the right of polarized light, while in the female they assume an opposite direction in the same light. This idea is admissible, *a priori* It is known that bacteria secrete substances that are dextrogyre or levogyre, and that this is, in certain cases, a means of differentiation of bacterial species. On the other hand, M. Dantec has observed that the plastidules differ in the nature of their chemical elements, special and peculiar to each. Experimental facts will come later.

This question of voluntary procreation of the sexes has already been investigated by different naturalists, and with relative success. Thus M. Maupat has made very interesting experiments with the "rotifera." It is known that these animals are reproduced without foundation, by a process called "parthenogenesis" in biology. If the ova of the rotifera be submitted to a temperature of 20 degrees, an enveloping membrane, which does not exist at first, is formed by degrees, and then the ovum can be fecundated; in this case a female is always the product. If allowed to evolve without foundation, it is always male, and by a simple modification of temperature, M. Maupat has been able to determine sexuality.

ACADEMY OF MEDICINE.

Surgical Treatment of Hematemesis.—M. Dieulofoy—I desire to draw the attention of the Academy to a form of gastric erosion but little known, scarcely visible, produced by an abrasion of the mucous membrane, whose extent rarely exceeds the diameter of a five-franc piece, and which, as I believe, is the initial condition of the true simple ulcer of Cruveillier. This erosion gives origin to considerable hemorrhages, sometimes alarming, and due to a lateral lesion of an artery of the musculo mucous coat of the parietes, which explains the extreme variety of spontaneous cures in cases of this kind. It is impossible for a clot to form and obliterate the artery involved. Medical treatment often fails, and I do not hesitate, as soon as the hematemesis is of a certain abundance, and despite the enfeebled condition of the patient, to advise an exploratory gastrotomy, which has already arrested the hemorrhage in many instances, by suture of the bleeding parts. M. Hayem—It is my opinion that spontaneous cures are more frequent than M. Dieulafoy supposes, in the initial phase of the ulcer. The operation which he proposes, seems to me much more dangerous when practiced upon patients that are extremely anæmic, especially because of the difficulty of finding the arterial lesion. There are two expedients that have given me complete success in grave and repeated hematemesis, namely, the transfusion of blood and intra-venous injections of artificial serum. M. Laucereaux—Before resorting to an operation, it would be well to carefully consider the indications furnished by the pathogenesis of hematemesis. The liver is often at fault in such cases, and as to the abundance of the hemorrhage, that to me is less alarming than its repetition. I would not advise suture of the gastric wall except in the case of relapse of the hematemesis and the impossibility of arresting it. M. Fournier—There is an ætiological factor which I am glad has been cited by M. Dieulafoy, namely, syphilis. In a certain number of

cases of hematemesis, I have been successful by employing the induretted treatment in syphilitics that had reached the tertiary period, and in whom the hematemesis was due to gummata of the parietes. M. Cornil—Gummata do exist, though they are rare, and I have described the gastric ulcerations which they originate, in a work published by me in conjunction with M. Rauvier.

Treatment of Obesity by Physical Agents.—M. G. Winternitz, of Vienna, explained the advantages of the method of treatment successfully employed by him for obesity. It consists of a systematic use of physical agents, and he gives preference to three, sweating, cold water and muscular exercise, active and passive.

Ocular Thermometry.—M. Galezowski exhibited an ophthalmo thermometer, by which ocular temperature can be taken without difficulty. He thinks the apparatus can be utilized in certain ocular affections, for the relief of which medical treatment has heretofore continued to be impotent, such as the decollation of the retina, choroidal hemorrhages, etc.

SURGICAL SOCIETY.

Surgical Treatment of Ulcers of the Stomach.—M Chaput—We are called to cases of ulcer of the stomach at different periods of their evolution, whether they be acute or chronic. In the first period, one or the other of the following conditions has to be met, namely, pain, vomiting, hemorrhage, peritonitis from perforation, or the accidents of suppurative perigastritis. The same accidents are encountered in the chronicity of the disease, and moreover there may supervene cancerous degeneracy of the ulcer or stenosis of the pylorus. For the relief of one or the other of these complications I have performed five laparotomies. In the first subject, a man of forty-nine years, there were all the signs of gastric ulcer, with debility so cachectic that an operation seemed scarcely admissible. Medical treatment, with the chlorate of soda was employed, but with only temporary amelioration. This was succeeded by gastrotomy, but the patient rapidly succumbed. The second case was that of a woman who had all the symptoms of ulcer. Laparotomy revealed a pyloric tumor, which was removed, and the patient has continued in good health for two years. The third patient was thirty-eight years old, had suffered for a long time from violent gastric pains, and various dyspeptic disorders. Later on there was continuous vomiting, the temperature exceeding 39 degrees. Laparotomy, with gastro-entero anastomosis was performed, and was soon followed by the disappearance of all the symptoms. In the fourth case, cancer of the stomach was grafted upon the ulcer; anterior gastro-enterostomosis afforded temporary relief, but the patient finally succumbed from cancerous cachexia. The fifth and last was a man of fifty-seven years, in whom all the signs of pyloric stenosis were clearly visible. In effect there was considerable hypertrophy of the pylorus which caused obstruction. Pylorectomy, with anastomosis of the duodenum and intestine was followed by cure, which has lasted two years. Despite all clinical facts, the diagnostic difficulties existing between gastric ulcer and gastric cancer cannot be disputed. The existence of a tumor is frequently supposed to be real, when there is no tumor. Again, a tumor may exist of an entirely different nature from that that may be diagnosed. For example, I removed a pediculated adenoma from the posterior face of the stomach that had been pronounced to be cancerous. Finally, neither pain, nor hemorrhage, nor the sensation of a tumor, nor a cachetic aspect, can properly be considered as pathognomonic of cancer, and in a chemical examination of the gastric juice, it cannot positively be affirmed that a neoplasm exists, diagnosis is most frequently illusory, and hence the propriety of intervention. I would add that in cases of stenosis, there often are indications for gastro-enterostomy, and the operation is equally indicated in grave dyspepsia that is rebellious to medical treatment. As respects the operative technique, the posterior method is preferable to the anterior, because the latter does not put the intestine in a depending position, thus favoring the formation of a projection that might cause compression of the colon. As regards the implantation of the intestine upon the stomach, I approve the lateral process with sutures, or with the button, which I adopt.

Fracture of Femur with Interposition of Muscular Fiber.—M. Picque—M. Bovis, of Rennes, reported a case of the femur at the inferior third from a fall. There was a contraction of five centim, and only once a perception of crepitation. Continuous extension not having caused this to disappear, twenty days after the accident an incision was made over the fracture, between the fragments of which a very thick fibro-adipose layer was found. The fragments were removed, the apparatus applied, and consolidation was normally effected. I recall the fact that it was in consequence of the absence of crepitation that M. Bovis supected a fibrous interposition, and that such facts are exceptional. They have been the subjects of many works, notably of Pollosson, Gantier and Nelaton. M. Berger—It seems to me that there was too much haste in practicing intervention in the case reported by M. Picque. For different reasons, crepitation cannot be perceived for several days after a fracture, and in order to judge that extension is impotent, there should be a delay of at least six or eight days, at this period, as it is that disengagement can be produced, and without this direct intervention is unnecessary. M. Championniere—I do not approve of what has been said by M. Berger. The interpositions of the first few days are not rare, but they do not continue and the ordinary treatment generally suffices to obtain consolidation.

MEDICAL SOCIETY OF THE HOSPITALS.

Renal Permeability.—In cardiac renal complication, though there should be very concentrated albumin in the urine, renal permeability examined by the method with methylene blue, is intact. In interstitial nephritis, on the contrary, with abundant and diluted urine, the permeability is diminished, the elimination of methylene blue is made slowly, and continues for several days, and at the end of eight days traces of the blue can still be detected by the aid of nitro-benzine.

Origin of the Superior Facial Nerve.—M. C. Marinesco presented an investigation of the bulbar origin of the facial nerve. The simplest way to solve this problem is to cut in a dog that branch of the facial which animates the movements of the frontal, orbicular and corrugator muscles, and twenty days thereafter to examine the bulb and protuberantia by means of the method of Nissb. There is observed a very manifest retroaction upon the inferior and middle parts of the niders of origin of the facial, while the external motoroculi is intact. By means of a series of sections of the whole extent of the nidus, I have determined that it is much more complex than is usually supposed. Without entering into details, I have observed that there are three regions in the nidus of the facial: First, An inferior region in which it is constituted by a compact mass of cells of the same type as those of the anterior cornua. Second, A middle region composed of three secondary nidi, external, middle and internal. It is the middle group that principally reacts after section of the facial. Third, A superior region, in which the three nidi are replaced by a single nidus.

Presence of Diphtheritic Bacilli in the Organs.—M. Richardiere communicated four new facts of the presence of the diphtheritic bacilli in the blood and bulbo-protuberantial nerve centers. The presence of the bacillus of Loeffler, signalized for the first time by M. Barbier, was confirmed by examination of these new cases. These observations all show that Loeffler's bacillus in the organs is relatively frequent. In one case the bacillus was not found during life in the throat, but existed in the blood, in the bulbo-protuberantial nerve centers and in the lungs. The bacillus was found in a state of purity, with no other microbe, in the bulb and the protuberance. A remarkable fact, that although found in the bulb and protuberance, there was no diphtheritic paralysis.

MEDICAL SOCIETY OF PHYSICIANS.

Indication and Counter-Indication for Pylorectomy and Gastro-Enterostomy.—M. Bilhant—Cancer of the stomach is sometimes on the cardiac side, but most generally on the pyloric. It is met with also on the anterior and posterior parts, and on the greater and lesser curvatures. The indications for operation differ in these different cases. In order to make a diagnosis, the X-rays and the sound may be utilized; medical treatment also af-

fords its suggestions. When a patient with a chronic disease of the stomach loses his weight and falls into a marked organic wasting, in spite of a severe regimen, cancer should be suspected. On the contrary, there might be hypochlorhydria or hyperchlorhydria if the alimentary regimen, after a certain degree of wasting, restores health and increases weight. In the case of a neoplasm of the cardia, the great difficulty is to nourish the patient. Then, in order to introduce food into the stomach, it becomes necessary to perform gastrostomy with as small an opening as possible, this is the urgen indication, no other is possible. On the contrary, if the lesion is located at the pylorus, two operations may be made. First, Resection of the pylorus and a part of the duodenum, and the attachment of the stomach to the intestine by direct anastomosis, and second, the establishment of a connection of stomach and duodenum with the jejunum. If the lesion be very extensive, then gastro-entero-anastomosis is the only expedient. As respects the gravity, gastrostomy is a simple and harmless operation, pylorectomy, while much more serious, is an excellent operation, and effects a satisfactory prolongation of life. M. Maurice Bloch—In all of such cases, patients delay too much in applying to the surgeon, hence gastro-enterostomy is performed instead of pylorectomy. It is necessary to recognize the existence of the neoplasm in time for the practicability of pylorectomy. It is often supposed that there is only a small tumor, and when the abdomen is opened, the surgeon finds himself confronted with a series of ganglia which prevent him from proceeding further and from removing the tumor. To make a diagnosis there are three methods, gastro-diaphanie, perfected by M. Comet; massage, or more properly, prolonged palpation of M. Geoffroz. In a recent case, the patient was not cachectic nor emaciated, in spite of difficult digestion. There was no trace of blood in the vomited matter, nor in the stools. Massage, or rather prolonged palpation, practised for several days under the false ribs, revealed the presence of a small tumor. The sound enabled me to diagnose stenosis, for it brought up food that had been taken twenty-four to thirty-six hours previously. In effect, the surgeon found a tumor, the size of an orange, which he could not extract. Finally, I have prescribed for some years the use of oil for the round ulcer of the stomach, giving it to a patient affected with gastric ulceration, with or without hematemesis, a tablespoonful of olive or sweet almond oil, or glycerine. It facilitates the ingestion of food, which, without its protection, would not be digested. In cases of neoplasm, the action of these remedies would be ineffectual. By the association of these different methods we may reach a diagnoisis. M. Archambaud—I believe that massage is a very bad method of reaching a diagnosis. When one desires to practise massage of the stomach, the diagnosis of the disease should be made beforehand; a single massage may be dangerous in a case of cancer. M. Bloch—I spoke not of massage proper, but of prolonged palpation. I do not mass the stomach, but its muscular surroundings. M. Hugon—In cases of meteorism, massage becomes necessary. M. Aubeau—I must say that I am not satisfied with the result of my operations. In surgery, the principle of art as art is criminal; it should be to use art for its utility. It is necessary to know the real results obtained by all operators. I ask myself the question if by operating I prolong life more than by abstaining. M. Bloch—There are special cases. A patient is affected with dyspepsia; he becomes emaciated; there is no hematemesis, no moelena, the sound reveals the existence of a pyloric stenosis. He is absolutely threatened with death from starvation. In such a case our duty is clearly defined; he should apply to the surgeon, who, in view of the location or generalization of the disease, will practice pylorectomy or gastro-enterostomy, and the patient will, according to the extent of his disease, secure months or even years of the prolongation of his life. M. Bilhaut—The question that occupies us now is that of cancer of the stomach. It is important to operate according to indications. When the tumor is located at the pylorus, it is very difficult indeed, almost impossible to make a certain diagnosis, because the pylorus is directed obliquely backward, and towards the spine, and in this case gastro-diaphany is of no avail. Pylorectomy is a grave operation, but it prolongs life more, the less advanced the disease is. In patients affected with cancer of the rectum, the strength returns after the creation of an iliac anus, and we see them live many years; this amelioration is produced because of the absence of irritation of the lower part of the intestine. Similar results are obtained by gastro-enterostomy, without resection of the polyrus. The irritation produced by the action of the bolus of food upon the ulcerated and painful tissues disappears because of the facility with which the passage from the stomach to the jejunum is affected. Diminution of irritation and the disappearance of pain are the two phenomena that explain how the gastro-entero-anastomosis gives such good results, and why the prolongation of life is relatively considerable in patients who can only undergo a palliative operation.

BIOLOGICAL SOCIETY.

Passage of Methylene Blue through the Placenta.—MM. A. Sicard and R. Mercier—Our experiments, sixteen in number, and made at the Maternity of the Hospital of St. Antoine, were conducted upon both primiparae and multiparae. The injections were introduced from three minutes to twenty-two hours before delivery. The minimum time for the passage of the blue in the urine of the fetus, seemed to us to exist between one hour and twenty minutes to one hour and a half. The urine colored the linen for two or three days after delivery, the tint gradually diminishing and progressively disappearing. The sixteen deliveries occurred in healthy women, with no tuberculous or syphilitic taint, nor microscopic alteration of the placenta. Perhaps the necessary time of one hour and twenty minutes, relatively long, if we consider the rapid passage of the chlorate of potass, should be permitted, thus leaving a sufficient delay for placental alterations that would induce great permeability and a more speedy elimination of the blue.

Epilepsy in Gastric Form—M. Lemoine, of Lille—I have seen five cases of epilepsy, in which the attack was simply characterized by gastric troubles, with or without loss of consciousness. The patients presenting this form suddenly experience acute pain in the epigastrium, followed by an indescribable sensation of "malaise," and very often accompanied with nausea and vomiting. There is always a feeling of faintness, and sometimes a brief loss of consciousness. After the attack they are fatigued, and need repose and sleep. The typical attacks are not accompanied with convulsive movements, but there is always a dilatation of the pupils. They are met with especially in children, and occur at variable intervals, sometimes at regular intervals, preceded by certain prodomata, with heaviness of the head. Again they appear in apparent health. The epileptic nature of the attacks may be affirmed, because they coincide with convulsions that are clearly epileptic in the same patient. In other cases they precede it. Trousseau has published a case of this kind, but since then their history has not been completed. The bromide of potassium, systematically employed, will cause their disappearance. Medical treatment directed to the gastric condition has no effect.

OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Injections of Artificial Serum in Feeble Infants.—M. Loriot reported case of child with grave dyspeptic troubles, which no treatment relieved; it vomited human and asses' milk. Gastric and intestinal lavage suppressed the vomiting, but there was no increase of weight. Injections of serum were employed daily, and the treatment seemed to succeed. There is more vigor, no more vomiting, and the child began to take the breast of the nurse.

OPHTHALMOLOGICAL SOCIETY.

Nature and Treatment of Simple and Chronic Glaucoma.—M. Abadie—In acute glaucoma, subacute or intermittent, we have in iridectomy a remedy which yields excellent results, while in chronic glaucoma all operative methods are to be deplored. The last affection, however, despite the too-well-known gravity of its prognosis, may be relieved, even cured, by a treatment based upon a knowledge of the nature of the processes of glaucoma. This disease, as I shall demonstrate, is due to a permanent excitation of the vaso-dilator nerves of the eye, as proof of which I cite the action of atropine and eserine. Atropine, a vaso-dilator, always aggravates the glaucoma-

tous condition. On the contrary, eserine and pilocarpine, vaso-constrictors, always exercise a favorable action. I have employed these two remedies alternately, and have proved that by impeding the progress of the disease, its area is constantly diminished. In the majority of patients I have obtained a complete arrest of its progress by associating the two myotics, and by dropping two drops of the following collyrium into the eye twice during the 24 hours.

℞ Neutral sulfate of eserine..... 0 gr. 05
Chlorhydrate pilocarpine.. .. .. 0 gr. 05
Aqua destillat, steril.. .. .. 20 gr.

This medication has its weak side. The necessity of applying the collyrium twice daily is indefinite, its vaso-constructive action ceasing regularly at the end of twelve hours. So I have thought it better to look for a cure by other methods, acting upon the vaso-dilator nerves of the eye, by cutting the great sympathetic which reinforces them, and have just had occasion to verify the correctness of my foresight. One of my patients was affected with simple chronic glaucoma at an advanced stage. On Dec. 16, 1896, M. Gerard-Marchaud removed the superior cervical ganglion of each side. The intra-ocular tension was at once reduced to the normal condition, and since then, although the installation of the eserine and pilocarpine has been discontinued, there has been no further increase of it. We may, then, hope that simple chronic glaucoma—a disease hitherto incurable—can be cured by the ablation of the superior cervical ganglion of the sympathetic, from which emanate the vaso-dilator fillets of the eye. These results should put an end to the numerous theories of recent date concerning this grave and frequently occurring disease. M. Parent said that M. Abadie, on other occasions, had recommended antigout remedies for chronic glaucoma, and employed sulfate of quinine and bromide of potassium. I would ask if he has abandoned this practice; moreover, I desire to know what is the degree of danger following the section of the greater sympathetic, and if M. Abadie suggests this operation as the normal treatment of chronic simple glaucoma, or only exceptional. Finally I would ask my colleagues if they have proved in their practice the pernicious effects of reading in glaucoma, a fact which has been observed by two friends in their own personal cases. M. Vignes—I entirely agree with M. Abadie in denouncing all operative intervention in chronic glaucoma, for the result is inevitably speedy blindness. This truth should be proclaimed. M. Cherallereau—Like M. Vignes I have seen disaster following operation in glaucoma; all intervention should be proscribed. Shall eserine and pilocarpine be employed, general treatment is very important. M. Antonelli—The association of eserine and pilocarpine does not succeed in all cases. In one case increase of the glaucoma always followed reading. In my opinion the digestive organs should be carefully considered. M. Sulzer found the successive employment of eserine and pilocarpine better than their combination. M. Abadie—I have not renounced general treatment in my glaucomatous patients, especially the antigout remedies, for I believe that these patients are generally arthritic. But, general treatment is of less importance than local, of which it is only an adjuvant. As respects section of the great sympathetic, it is not dangerous, except when the whole cervical sympathetic is removed, as proposed by M. Jonnesco, and performed by M. Faure, and followed by the death of the patient by syncope, while under chloroform.

Mrs. D. A. Milliken, widow of the late Richard Milliken, of New Orleans, has announced her purpose to erect and endow a large hospital for children, to be an annex to the New Orleans Charity Hospital. The hospital is to be a memorial to her husband.

An International Health Exposition on a large scale is to be held in New York, shortly, to continue five weeks. The work is being done under the best auspices and will no doubt be a credit to those who participate in it and to the city in which it is to be held. The announcement indicates that it will be an important and interesting occasion.

CORRESPONDENCE.

ABUSE OF MEDICAL CHARITY.

To the Editors of THE MEDICAL TIMES:

Trouble has long been smouldering in one of the post-graduate medical schools of this city, and has at length become public through the expulsion of a member of the faculty, and subsequent newspaper interviews. It is to be hoped that it will not prove to be an unmixed evil, deplorable as the matter seems now.

Dr. Kelsey's friends, and their name is legion, are confident that he will give a good account of himself and substantiate the startling statements he has made. If this results in enlightening the profession and the public as to the devious metheds of hospital management, it may be the first step in the real reformation of the abuse of medical charities which has been so long talked about and towards which but little real progress has been made. It would be quite out of place to enter into the discussion of this particular case, which will doubtless be thoroughly probed elsewhere, but it seems a fitting time to say something about hospitals in general and the methods employed to support them and the ultimate results they attain. It is a fact that the money obtained from city and state, by some of them at least, is gained by misleading representation. For example, some hospitals receiving as high as $25 to $40 a week from patients, report them as "free patients." The ingenious explanation is that these people pay that sum for room rent and that their medical attendance is free. New born babies in maternity wards are listed as free patients, and from the moment of their birth their subsistence charged to the State.

Dispensary reports have been falsified, and scores of fictitious names added to make their claim for public assistance more plausible. It is, however, to a more insidious and, if possible, more contemptible character of fraud to which I wish to call attention.

Some time ago I wrote a paper on the subject of "Abuse of Medical Charity," but never found its way into print for the reason that, before it was quite complete I read an address delivered before a State society, by an eminent physician who had most forcibly and completely covered my every point. Within the last two months I have repeatedly received postal cards inviting me to witness operations by this same gentleman in a public hospital, supported by city money. On inquiry, I learned that these invitations are sent far and wide, apparently to the entire medical profession of the city.

Certainly this is not done with any desire or expectation that there will be a general response. There would be no profit to me to watch Dr. Blank from the seats of a crowded amphitheatre, while *he* repaired a lacerated perineum. Now, this eminent man, who protests against the abuse of medical charities, is, for the sake of advertising himself, abusing this charity and abusing decency, but he is doing it in a way that makes him secure of censure from the medical associations of which he may be a member. Such professional, but reprehensible abuse of public position is notorious, and the conclusion is forced upon us that in the scramble for money and reputation, the doctors themselves are the worst sinners, and that public charity is more abused by them than by anyone else.

No man with ordinary intelligence believes that the dispensary physician gives his time from pure and unselfish motives. He makes his work there the means of getting practice for himself, and when a patient comes for free treatment who is well able to pay he is hailed with delight and not repulsed with scorn, and the doctor finds an opportunity to suggest in the course of time that it is an interesting case and that if the patient could make it convenient to drop into his office, where he had better appliances and more time, etc., etc., and so ultimately a patient is gained. Hospital positions are used in a similar way.

The surgeon whose work is theatric and showy is the enthusiast. Medical positions are less desirable. Each hospital staff is a clique, bent chiefly on keeping others out and themselves in; its mutual jealousies and hatreds, held in abeyance by its greater hatred of outsiders.

The blessed women who organize themselves into aid

societies and go about levying a species of blackmail on their friends and acquaintances, are, I doubt not, in a great measure actuated by pure kindliness and a desire to be doing something, but as a matter of fact they are simply aiders and abettors of the plans and schemes, mostly selfish, of the ambitious doctors. Beyond doubt the sick poor receive a certain measure of benefit, but their welfare is a secondary consideration. Hospital and dispensary positions are schemed and contrived for with all manner of cunning. Only a few aspirants can be successful. I make bold to say that there is not a position in any hospital or dispensary or medical institution of any kind in New York City that, being rendered vacant, could not be acceptably filled by a half-dozen waiting applicants.

Perhaps it may be said that the gentlemen who give their services are entitled to the honors and the emoluments as well. In a measure, yes; but let them throw aside the pretence of exalted Christian charity. Then, too, the present system is a gross injustice to the vast lot of poor doctors whose wives are keeping boarders to eke out a scanty existence, and who are driven to unprofessional conduct to make it possible to live at all.

The remedy for this lamentable state of affairs is as simple as it is radical. Stop all appropriations to private institutions, let the State provide hospital and dispensary accommodations for the sick poor, and let it employ and pay physicians to do this work who shall devote their entire time to the public service. Let private hospitals and schools support themselves or go out of existence. It would be a good thing, certainly, if half of them were closed. The present system is very bad. It is bad in that it pauperizes the people, and it is equally bad in that it degrades the doctors. L.

Editors of THE MEDICAL TIMES:

In 1893 THE MEDICAL TIMES published an article from my pen on the "Oil Treatment of Appendicitis." I would be obliged to any physicians or surgeons who carried out my medical plan of treatment to write to me, at as early a date as possible, giving the number of cases treated, the treatment used, the length of time under treatment, the history of the cases, the recurrence, diet, condition of bowels, number of deaths, etc. with the diagnostic symptoms. It is desirable to have a clinical record of the cases, not a classified report. Very respectfully,

M. O. TERRY, M. D.

Utica, N. Y.

The New Library—The New York Public Library, Astor, Lenox and Tilden Foundations, has now passed all preliminary stages, and the contract for the new building has been awarded to Carrere & Hastings, whose plans were recently accepted. The library building promises to be in every respect worthy of the noble conception of the consolidated institution.

In view of the fact that it will have a medical department, and is to be located within a block of the great library of the New York Academy of Medicine, is it not possible that a union of them under one management might be an advantage to both institutions?

We are not to be understood as recommending such a course, but only express a thought suggested by the present situation. There are now at least three medical libraries in the city which largely duplicate each other, and the same motives which prompted the consolidation of the Astor, Lenox and Tilden Libraries are just as pertinent in regard to the Mott Memorial, New York Hospital and Academy Collections. Duplicate books are unnecessary and undesirable in a large proportion of cases. If these three forces were combined it would insure for New York City the most complete medical library and reading room in the world.

If the Academy could be relieved of the care and maintenance of its library and reading room, the annual dues, which are now a burden to many Fellows, could be reduced and a large increaase in membership would probably be secured.—*Medical Review of Reviews.*

"Practical Therapeutics," published by H. K. Mulford & Co., Philadelphia, containing very interesting reading, including the latest experience with serum treatment, will be sent free on request, and mention of this journal.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Treatment of Melancholia with Opium.—Dr. J. L. Mucholls, of the Illinois Insane Hospital (*Med. Rec.*) thinks that opium is by far the best drug to use in motor or excited melancholia. She has had the best results with the deodorized tincture, given in doses of from fifteen to twenty minims, gradually increasing to sixty minims three times a day. She gives the history of three cases with splendid results.

Heart Diseases Treated by Exercises and Salt-Water Baths.—Dr. G. Lyon (*Rev. de Therapeut. Med. Chirurg.*, No. I. P. 18, 1897) reviews a contribution to *Med. Mod.* by E. Barie, as follows (*Med Surg. Bull.*):

Up to recent years, patients with organic heart affections were advised to give up exercise of the body, such as fencing, dancing, jumping, swimming, rowing, skating, running, gymnasium exercises and cycling. But now some German and Austrian physicians recommend walking and physical exercises to be practiced in a certain way and under certain conditions.

1. The most famous mechanical means is the treatment proposed by Oertel (1885), which consists in the gradual and progressive climbing of mountain slopes completed by a series of means, including special alimentation, steam and hot-air baths and massage. His aim is:

(1.) To raise the contractile force of the cardiac muscle and increase its energy by methodic climbing.

(2.) To diminish by sweating and diminution of drinking, the quantiay of liquids in the economy, and thus cause disappearance of venous stasis and peripheral edemata.

(3.) To diminish obesity and thus lessen the work of the heart.

To obtain the first—the increased functional activity of the heart—Oertel recommends gymnastics, movements, walking in the open air and especially climbing slopes. The climbing of the mountain slopes is done sometimes in one or two stages, sometimes in three or four, to reach the curative point, which corresponds to 3,000 or 4,000 steps twice a day. Oertel claims a greater loss by perspiration from climbing a mountain of 362 meters than that from hot baths. The end is to get rid of the fatty heart. The muscular fibres, freed from clogging by these fatty matters being burnt up, regain their contractile vigor. The climbing thus raises vascular pressure, widens the arterial paths, increases the amount of blood in the arteries and soothes the strained nervous system.

Oertel's detractors say that these methods will dilate the heart cavities and hasten the onset of syncope in certain cases. If it may be of utility in certain well-compensated lesions of the heart in neuroses, and especially in fatty heart, it ought to be rejected in recent endocarditis, true angina pectoris, advanced arterio-sclerosis, valvular lesions in asystole, in myocardiac degeneration and aneurismic dilatations of the aorta.

2. The cure by "altitude" may give results as good as those by walking, provided, as Lagrange says, the altitude is progressively graded. Practically, patients should not be allowed to take an altitude above 1,000 metres to begin with. On the appearance of the slightest inconvenience patients should keep absolutely quiet, and if rest does not remove it, they should without further delay descend to a resting-place of less altitude.

3. Swedish movements may in certain circumstances tone the heart muscles. The brothers A. and W. Schott have recommended a mixed treatment, consisting of a series of movements and salt-water bathing. Heinemann, of Berlin, is equally partial to the hot salt-water baths.

4. Moderate use of the bicycle may be authorized in certain cases, but must be forbidden in advanced arterio-sclerosis, aneurismic or suspected cardaic steatoses.

5. Massage completes the mechanical means. This should be light and soft at first, followed by kneading, always in the direction of the venous circulation.

Sodium Bicarbonate as a Surgical Dressing.—The *Journal of American Medical Association* says that a

Russian military surgeon, N. V. Gueorguievsky, accidentally discovered in the course of treating a severe phlegmon of the index and palm of the hand, that a compress wet with a 2 per cent solution of bicarbonate of soda will arrest pain and suppuration almost immediately and lead to a complete cure. He considers its action more effective than any other antiseptic, including iodoform, phenic acid, etc., in the treatment of purulent wounds. Whenever he suspended it to resort to iodoform, or any other treatment, the suppuration recommenced, to be arrested again by the resumption of the magic compress, as his patients called it. He first incises and cleans out all the pus and then applies the compress to the cavity and surrounding parts.

Birch Leaves, a Powerful, Harmless Diuretic.—Prof. Winternitz's attention was called to the leaves by a female patient, whose dropsy, due to kidney disease, was cured by them, after every other diuretic had been tried in vain. (*Centr. Fuer. Die Ges. Therapie*, XV. 3; *Am. Med. Surg. Bull.*) Twenty-four hours after the first dose the secretion of urine becomes very abundant (in many cases the urine increases from 300-400 c. c. to 2,000-2,500 c. c. pro die), and continues as long as the tea is taken. The albumin, epithelial cells, cylinders, etc., become less, and then disappear completely; and it is worthy of note that, though the increase in the urinary secretion is so enormous, no symptoms of irritation (of the renal parenchyma) have been noticed in a single case. Prof. W. recommends an infusion, made by macerating 3 oz. of the leaves in about a pint of hot water for two hours, to be drank in three portions during the day. The leaves must be gathered in spring and dried in cool, airy rooms.

Cyclotherapeutics.—M. Siegfried (Berlin, Nauhaim) has derived great benefit in certain cases from specially constructed tricycles with adjustable seats, pedals and cushions and made comfortable, and ordered as the therapeutic measure under the strict supervision of the physician, never allowing it as a sport to be indulged in at will. He describes in the *D. Med. Woch.*, of July 1 (*J. A. M. A.*), the remarkable results attained in a few specimen cases of heart and spinal troubles, gout and relapsing polyarthritis, rheumatics with ankylosis of the joints and atrophy of the muscles. Patients confined for years to invalid chairs are restored to life and activity, attend to their business and take a daily tricycle ride alone. The cyclotherapeutic treatment is often extremely painful at first and is commenced very gradually, with baths, etc., with frequent intermissions. The special tricycles for this purpose are manufactured by the Adler Bicycle Works, of Frankfort-a-Main.

Electricity in the Treatment of Uricacidemia.—J. G. Davis reports several cases in the *New York Polyclinic* of May 15, 1897, in which great relief was experienced from the use of electricity. The constant current was employed with the positive pole over the lumbar region and the negative over the abdomen. In two cases which were regarded as Bright's disease, and in which a large quantity of albumen was being voided, the treatment caused the albumen and coexistent dropsy to disappear. He does not use this to the exclusion of other treatment, but combines it with diuretic and dietetic measures. In one of the cases the stimulating effect of the current on the kidneys seemed to be very direct.

Pilocarpine in Meniere's Disease.—Lemariey (*Annals de Maladies de l'Oreille du Larynx, du Nez, et du Pharynx*, 1896, *Med. Record*, Aug. 8, 1896) reports good results from the use of pilocarpine in the case of a man of thirty-five, who suffered most severely from attacks of aural vertigo. They developed suddenly in the course of chronic otitis media, involving both ears. After a week's treatment with various remedies, he was given hypodermic injections of pilocarpine once a day, the patient remaining in bed for about two hours after the administration. The dose was at first 4 milligrams of a 1 per cent solution, which was increased by 1 milligram every two days. Fifteen days after the beginning of the treatment he was practically cured.

Nitro-Glycerin in the Treatment of Failing Heart.—Dr. V. M. Reichard (*Maryland Med. Jour.*, September, 1897) says: I beg you will indulge me a few minutes longer, while I speak of a remedy which is variously known as trinitrin, nitroglycerin and glonoin. After having so often seen it accomplish the most brilliant results it is difficult to restrain one's enthusiasm and to write and speak calmly about it.

The first indication for its use to which I would call your attention is the condition which we are perhaps warranted in calling fatty heart, corded arteries, arcus senilis, pulse weak and perhaps above the normal rate, with weak, muffled heart sounds, especially the first, should make one suspect fatty degeneration of the heart muscle. It is in these cases that nitroglycerin with good food and graduated exercise will do what nothing else in the range of materia medica will. It dilates the arteries and arterioles and increases the number of contractions. This increases in a very decided way the amount of blood supplied to the heart wall in a given time through the coronary arteries. When we remember that these arteries are filled in the recoil of blood thrown into the aorta and that the amount of blood going to the heart wall depends upon the caliber of these arteries and the number of cardaic pulsations, we readily see how nitroglycerin holds a unique place. Let now this blood be of the richest and most nourishing character and you have as nearly an ideal condition as can be secured.

In those formidable cases which the terrific pace of modern life seems to be making more numerous, in which there is sudden failure of the heart with intense dyspnea, tending rapidly to a fatal termination, no drug can compare with it for a moment in efficiency.

When there is intense dyspnea or a failing or irregular pulse, with or without bloody expectoration, give nitroglycerin with a strong and bold hand. Failure to relieve is due, in my opinion, to the small dose. Give enough to produce full physiological effect and do not stop till this is accomplished. I begin with 1-50 grain and double the dose every ten or twenty minutes until relief comes. The patient will express himself very readily and earnestly. I should not hesitate to give any dose necessary to secure the desired result, always watching for the flushing of the face and the headache.

In a marked case, a few years ago, a young lady did not get relief until she was taking fifteen drops of the 1 per cent solution every ten minutes. One notable case of mine, years ago, took forty drops of the same preparation four times daily for two months, and it did her an immense amount of good.

Clinical Observations on the Use of the Valerianate Guaiacol (Geosot).*—The Valerianate of Guaiacol (Geosot) was employed in acute and chronic intestinal catarrh, especially on a series of cases of infantile and choleraic diarrhœas in which treatment with calomel, castor oil and tannin had not been successful. Vomiting and intestinal decomposition disappeared after a few doses. It gave me even better results in the bronchitis of children with a tendency to broncho-pneumonia.

The influenza epidemic of the present year attacked a particularly large number of children and in many of them produced a condition resembling whooping cough. In these cases I have been able by the use of Geosot to procure a relatively rapid cure of this symptom.

In a number of cases of catarrh of the bronchi, larynx, pharynx and nasal passages, the irritative phenomena quickly vanished, the mucous soon softened and the secretion dried up. In my own case, an attack of catarrh with very severe naso-pharyngeal irritation and profuse mucous secretion was brought to an end in two days by twenty capsules (4.0 grm.) Some further good results were obtained in acute gastric catarrh and in nervous dyspepsia with gasteroptosis.

Although the results which have been given above are interesting and satisfactory they are merely supplementary to an account of the effect of Geosot upon which its chief utility depends. I refer to its action in tuberculosis.

The results are unquestionably favorable in which out of seventy-six average cases thirty-one cures have been obtained and thirty-two have been improved so that many of them reached an almost complete recovery, nineteen of them giving up the treatment because they felt perfectly well. The eight fatal issues occurred in hopeless cases of rapid and extensive destruction of the lung (3) cerebral tuberculosis (2) and general tuberculosis (3).

The cases which offer the possibility of cure are those in the initial stages in which no destruction of pulmonary

* *Deutsche Medizinal-Zeitung*, August, 1897.

tissue, or at least only a slight amount has taken place, and in which the organism is still vigorous enough to give assistance in expelling the dangerous parasites. And next after these, the chronic cases in which the strength is relatively well preserved and the resisting power of the organism can be counted on. In the cases which I have observed there are those in which decided cavities have cicatrized; one, indeed, in which six months later, in spite of a plainly visible lack of symmetry from retraction of the upper thoracic region the man was drafted and is now performing his military service.

At this point I must call attention to the fact that during the use of even small amounts of Geosot such as 1.5 grm. and rarely 1.8 grm., the subjective symptoms disappear with extraordinary rapidity. In some the dry irritative cough is markedly diminished in three to eight days and fully allayed in two to three weeks, and what is of special importance the appetite, body-weight and sense of general well being improve in a similar short period.

Geosot seems to dissolve the tubercles and to melt down the necorbiotic tissues in which they are imbedded in case the latter are not able to resume their proper vitality thus causing an energetic demarkation between the diseased and the healthy structures. The rapid separation and expulsion of the suppurating caseous masses in the lung and their rapid disappearance from the sputum may be explained by a similar Geosot effect. Moreover if Geosot is injected into a tuberculous gland which is markedly swollen the entire contents become softened in from four to eight days, so that it may be evacuated by an aspirator needle of moderate calibre. After the detritus is removed the gland heals, the overlying integument being undamaged and usually without any depression of the skin. Smaller lymphatic swellings in which the necrobiotic process is only trivial and the absorbents are not yet sealed, disappear after injection of Geosot, the diseased products and the necrotic elements both being absorbed.

The dissolving power of Geosot in surgical cases is still more importaant and more appreciable to the eye. Typical tuberculous granulomata are modified after a single local treatment with Geosot. The opaque tubercles swell up and become soft and yellow. The next day the gauze tampons are soaked through with pus, the masses of granulations are soft and yellowish and the base fresher and hyperaemic. In a few days the loosely attached masses have disappeared even without the use of the sharp spoon. At this stage the cavaties or fistulous tracts are clean and will heal, unless there is a deep seated joint affection which has not been repaired. In the absence of such a complication the wound quickly ceases to secrete and heals promptly

A very interesting case is that of one of an advanced pulmonary tuberculosis with subsequent tubercular inflammation of the bones of the left carpus and all of the metacarpal bones except the first of the same side. At the end of April the young man came to me with a tumor on the left wrist. He said that there had been pain and stiffnes for four weeks. After incision and the evacuation of pus it was seen that the bones had their periosteal covering partially destroyed, the surface of the bones was roughened but the joint was intact. After a suitable curettage the wound was packed with gauze soaked in Geosot. The swelling increased by the time the wound received its second dressing, and a firm pressure under the deep flexors of the fingers forced out some thick pus. A longitudinal incision was then made in the palm of the hand extendidg to midway between the palmar arches. Examination with a probe showed the periosteum was partially destroyed and the bone roughened. The sharp spoon was used to remove what it could and a gauze drain soaked in Geosot was led up into the wound at the wrist the cavity being packed as firmly as possible. Repair proceeded favorably. It is now clean and free from secretion and promises to be well in a short time.

This case shows that tuberculous processes heal if Geosot can be brought into direct contact with them. There is no question but that the use of Geosot will permit a marked extension of conservative methods in the taeatment of tuberculosis of the bones and joints.

In a case of Lupus which was treated with Geosot, painted on the surface and covered with sheet gutta percha, I have convinced myself is fully healed and has remained seven months without relapse. A second case of Lupus, which arose as the result of the rupture of a tuberculous gland of the neck, was also cured in two months and showed no relapse in three months.

In conclusion, Geosot is non-toxic and non-irritating, both when given internally, used externally or by hypodermatic injection.

Its acts pre-eminently upon the mucous membranes and is therefore useful in diseases of the stomach, intestines and the respiratory passages.

It is especially a remedy for tuberculosis, the best that I know of whether given internally for pulmonary tuberculosis, externally for Lupus or as a local dressing or injection for bone and joint tuberculosis.

In the latter case it must be brought into contact with the diseased tissue and affords a means for a great advance in conservative methods of therapeutics. To those who prefer to use the Geosot in liquid form I wish to suggest the following formula:

R Geosot (Valerianate of Guaiacol)
Alcohol absolut. ana 10.
Ol. Menth. pip. gtt. 10-15

M. et S. 5-10-15 drops three to five times daily for a boy eight years old.

Ferro-Somatose.*—The investigations which have been undertaken at the Medical Polyclinic in this city with a new iron preparation, ferro-somatose, have given so favorable results, that, at the request of my chief, Prof. Thomas, I communicate briefly our experience in the following:

Ferro-Somatose is a light brown powder, readily soluble in water, and containing about 2 per cent. of iron in organic combination.

We have treated with this remedy a number of weak and chlorotic girls, without changing their mode of life or their diet, with the result that, in a short time, the bodily weight and the amount of hemoglobine increased, and that the general health and strength were materially improved. This occurred in two cases which had been previously treated for a considerable time with other ferruginous preparations, but without any decided benefit. The remedy was given in daily quantities of five to ten grammes, divided in two or three doses and dissolved in various fluids. In three cases, under administration of 10 gm. daily, a laxative effect was manifested, which, however, proved rather agreeable than otherwise, since most of the patients suffered from constipation. Other patients took this dose without any such after-effects. Under the use of doses of 5 gr pro die there was practically no influence upon the state of the bowels, except, perhaps, that the stools which are usually costive, became somewhat regular.

To explain more fully what has been above stated, we present in brief the main particulars in the histories of our patients treated with this preparation.

Case I. A. St., domestic, aged twenty-four, quite weak and emaciated, moderately anæmic. In the last few weeks had had a tendency toward diarrhoea; at present stools are regular. No organic disease. Had to leave service on account of weakness and lassitude, and for some time has been in a home for servants, but has recuperated but slightly under use of a stomachic (tinct. cinchona and nux vomica), appetite poor.

June 30, 1897, bodily weight, 48 kilo. 850 gm. Amount of hemoglobine in blood 70 per cent. (estimated with Fleischl's apparatus).†

July 1-7, patient takes 5 gm. ferro-somatose daily, which is well tolerated. At the end of this time she felt better and stronger, appearance and appetite improved. Stools more frequently than formerly (usually two daily). Weight 50 kilo. 200 gm. Amount of hemoglobine 75 per cent.

July 8-14, 5 gm. ferro-somatose daily. July 14 feels quite well and vigorous and is able to assist her attendant considerably in her work. One stool daily, of firmer consistence. Weight 50 kilo. 700 gm. Percentage of hemoglobine 75-80.

July 15-22, 5 gm. ferro-somatose daily.

July 24 patient feels and looks well. Has worked vigorously during the hot weather of the last few days, which, she thinks, has prevented her from increasing more in weight. Has a good appetite. Weight 50 kilo. 900 gm. Percentage of hemoglobine 85. Discontinues treatment.

Several other cases improved rapidly and considerably as regards nutrition, and the state of the blood. From these observations we were impressed with the idea that

*By Dr. E. Roos, assistant physician to the Medical Polyclinic at Freiburg.

† Therapeutische Monatschefte, Sept., 1897.

ferro-somatose combines the well recognized nutrient properties of somatose with those of a good iron preparation in an efficient manner.

Reccurrent Tonsilitis Treated with Injection of Carbolic Acid in the Tonsil. Kramer (*Centrlb., E. Chir.*, No. 47, 1896. *Univ. Med. Mag.*) has employed for several years injections of carbolic acid into the tonsil for the relief of recurrent tonsilitis. He reports fifteen cases where there has been freedom from the disease for two years or more. The treatment is based upon the theory that recurrent tonsilitis is due to the retention of micro-organisms in the glands. The treatment was begun several weeks after recovery from an acute attack, and consisted in the injection of carbolic acid 1:40 for two or three days, until from four to six injections had been given. After cocainizing the part the sterilized needle of the syringe was introduced one centimeter into the anterior pillar of the fauces, and if no bleeding followed, the carbolic solution was injected drop by drop, the needle being pushed in several directions until fifteen minims had been injected. There was very little local reaction.

Constipation and Insanity. Alessi (*Jour. of the Amer. Med. Asso.*, May 15, 1897) finds that mental troubles are aggravated when there is constipation, and improved when the functions are regular. He also finds that in the melancholic forms of insanity, the intestinal atony preceded the outbreak of the insanity, while in violent mania it follows and seems to be produced by it, as there is evidently some connection between the action of the intestines and the degree of excitability of the cerebro-spinal nerve centers. He concludes an interesting study of ninety cases with an account of a woman brought to the clinic in violent mania which had developed suddenly that day. Inquiry of her mother elicited the fact that she had not had an evacuation for fifteen days, and the administration of eighty centigrams of calomel and sixty of scammony restored her promptly to sanity, as the intoxication had not lasted long enough to impair the integrity of the nerve cells.

Ichthyol for Insect Stings.—Dr. W. Ottinger (*Wien. Med. Blaetter, Am. M. S.-Bull.*) narrates his lack of success with ammonia, but mentions that he has found ichthyol an admirable remedy. He has tried it for the stings of flies, gnats, bees, and wasps, and has found that it causes the phenomena of inflammation to subside quickly and surely. He attributes its effect to vaso-constrictor action. He advises applying it pure in a thick layer, but it may be used in the form of an ointment. Besides this the writer administers internally a mixture made as follows:

Ichthyol	10 gm.
Alcoholized ether	10 gm.

Dose: 10 drops at one dose.

Dr. Wilson Stockham, of Oakland, Cal., was moved by reading our article on the treatment of tuberculosis (March 1897) with balsam peru, to report her own case of Bright's Disease, cured with this remedy, taken in vaseline as a vehicle, for several months.

Stockham states that after taking this remedy the urine gives with nitric acid a precipitate resembling albumin.

The crude balsam is not well borne by the stomach, causing gastritis, hence the vaseline as a medium. The drug should be tried further in this disease.

The Influence of digitalis on the heart muscle when administered for a long period of time with a microscopic study.*

While we know certain facts about the acute effects of digitalis, if I may use such a term, we know little or nothing of what might be called its chronic influence over the heart-muscle itself. It is true that a multitude of clinical observers have found the prolonged use of this drug in proper doses to produce an increase in the force of the apex-beat of the heart, an increase in arterial pressure, and a slowing of the pulse-beat, but though these effects are explained by the known physiologic influence of the drug the question as to whether the continuous use of digitalis really strengthens the heart has been undecided. By the term *strengthen* I do not refer to a temporary increase of power produced by stimulation such as follows the use of alcohol or ammonia, but a condition in which by reason of increased muscular development the heart is actually increased more or less permanently in its muscular development and ability to do any extra work that may be thrown upon it. . . .

When digitalis is given to a patient with cardiac disease and death takes place, the post-mortem examination usually reveals an increase in the developmnent of the heart-muscle, and it has been customary to attribute this solely to the effort made by the system to establish compensation by hypertrophy. The experiments about to be detailed would seem to prove that the increase in muscular development may be in part due to the drug, and explains why it is that digitalis is so much more effective in most cases of valvular disease with failing compensation than any other heart-stimulant or heart-tonic, for all the others seem to have, and probably do have, but a temporary stimulating effect. . . .

Lactophenin Perfectly Safe.—In his exhaustive chapter on Tuberculosis, in Wilson's American Text-Book of Applied Therapeutics, Prof. James T. Whittaker, of Cincinnati, compares the antipyretics at various stages of treatment, and always speaks most favorably of lactophenin. Thus, in mentioning methods for lowering the temperature (p. 376) he says that salol is safer than acetanilid, antipyrin or phenacetin, "but as it liberates carbonic acid in the intestine, it should not be given in any case of statis of the kidney;" and then he adds: "Lactophenin, in the same dosage (5 to 7 grains) is efficacious and free from danger." To quiet pain (p. 384), "sometimes due to a toxic neuralgia," salol is safer than either phenacetin or antipyrin (the latter in large doses, depressing the heart), while "Lactophenin is a perfectly safe drug in the same dose (5 grains every two hours)." This view is in accord with the judgment of the many reporters, that lactophenin is the safest of all the newer antipyretics.

Quinine Treatment of Meniere's Disease—The sulphate of quinine is the specific for this annoying affection, but the technique of its administration is all important, Gilles de la Tourette states in a six-page article on the subject in the Sem. Méd., of August 18 (*J. A. M. A.*) He does not hesitate to send his patient to a sanitarium if he thinks his instructions will not be carried out to the letter at home. After consulting with a specialist—a plug of cerumen may prove the cause of the trouble—and if there is no acute affection of the tympanum, he proscribes all local treatment or intervention, and institutes a preparatory system of alimentation, consisting chiefly of milk, for the week previously, after which the milk is dropped as the quinine salt coagulates it. The dose is important and should be carefully studied, varying from one-half to one gram (usually 0.75 gram) per day, divided into three or four doses, taken between meals, with a certain amount of water to prevent injury to the stomach. This course should be followed faithfully for fifteen days, warning the patient that his symptoms will grow worse at first, confining him probably to his bed. In some cases one course is sufficient to effect a complete cure, but a second course is required in most cases, and occasionally a third. An interval of two weeks should be allowed between the first and second, and of a month or two between the second and third. Perseverance is the *sine qua non* of success and the cases cured with one course require supervision for a long time afterward, so as to commence the following course promptly when indicated by a recurrence of the troubles. If there is intolerance of the quinine, it can be administered per rectum, 0.30 to 0.40, in an emulsion with an yolk of an egg, night and morning. This method is uncertain; if it fails the only recourse is to salicyate of soda, 2 to 4 grams a day for two weeks, as above. The quinine acts upon the heperexcitability of the labyrinth, which is the source of the trouble, but it has no effect upon sclerosis of the tympanum or anchylosis of the ossicles. Consequently, if there is deafness from this cause, this treatment will not cure it. The general belief that quinine will cause deafness, he considers with Charcot, absolutely unfounded, and cites patients who claimed the hearing was improved by the quinine treatment.

Radiant Heat in Ulcers of the Leg.—Dr. Colleville, Professor in the Rheims School of Medicine, treats ulcer of the leg by exposure to heat without any very elaborate apparatus. (*J. A. M. A.*) All that is required is a square plate of metal which will stand heating, and

* By H. A. Hare, M. D., and W. M. L. Caplin, M. D., Med. and Surg. Rep., December 11, 1897.

a Bunsen burner. The blue flame of the latter impinges on the metal so as to bring it to a dull red heat, and the ulcer is exposed to the action of this at a distance of about ten inches, the rest of the limb being protected by bandages. The temperature is about 45° C., which is easily borne, and the flame is regulated so as to maintain this temperature at the wound during the whole of the sitting, which lasts for from twenty minutes to an hour. At the conclusion the surface is found to be glazed over, large granulations being visible through the semi-transparent coating. It is best to leave the ulcer exposed to the air for some time, and when it is dressed care should be taken that its surface is not touched by the aseptic gauze or other material used. Some improvement is generally experienced by the patient even after the first sitting, and cicatrization is completed in from five to twenty-five applications. In the latter sittings, when the ulcer is nearly healed, a more moderate degree of heat may be employed. Where gas is not available the heat of the sun or that of a fire may be utilized. Dr. Colleville attributes the beneficial effect of this method to the com bined action of heat, light and ventilation.

Sodium Sulphate in Hemorrhages.—Dr. Reverdin (*Rev. med de la Suisse Rom.*) has employed small doses of sodium sulphate in different kinds of hemorrhages with very good success. He gave 1 60 grn. every hour. His experiments on animals have shown that this drug accelerates the coagulation of the blood.

RETROSPECTIVE DIETETICS.

Treatment of Canned Fruits.—A timely warning is uttered by the *California Fruit Grower* in an article noting a recent case of poisoning by lemonade deposited in a tin vessel. We quote: "Open a can of peaches, apricots, cherries or other fruit—for all fruit is acidulous—let it stand for a time and the fruit acids and the tin are ready to do the work of poisoning. A chemical knowledge that tells just how the dangerous compound is created is unnecessary to the avoidance of the peril. The rule to follow is, never make lemonade or other acidulous drinks in a tin bucket, nor allow them to stand in a vessel of tin, and in the case of canned fruits or fish, immediately upon opening the can turn the contents out upon an earthenware plate, or into a dish made of earthenware or glass. Fruits in hermetically sealed cans, if properly prepared, generate no poison. As soon as opened the action of the acid on the tin, with the acid of the atmosphere, begins, and in a short time the result is a poison." This brief treatment of the question should be remembered by everyone and its instructions followed.

Influence of Starvation Upon Microbic Infection.—Tessier and Guinard recently reported to the Academie des Sciences (*Le Progres Medicale*, Feb. 17, 1897) a com parative study of the effects of the pneumococcus and the toxin of diphtheria on dogs, which were fed and those which were deprived of food. It was found that the latter strongly resisted the action of the toxins, and in many cases proved quite refractory to them. The observations are of great interest from the bearing which they have on the feeding of patients suffering from infectious disorders.

"The Salt Habit."—The *The Journal of Hygiene* says: The use of salt as a condiment is so general and so universally believed in as necessary, that we rarely hear a word against its excessive use, but there are a multitude of persons who eat far too much salt; eat it on everything—on meat, fish, potatoes, melons, in butter, on tomatoes, turnips and squashes, in bread and on a host of foods too numerous to mention. To so great an extent is it used that no food is relished which has not a salty taste, and this hides more or less the real taste, which is often very delicate. Now, the amount of salt required in the system is comparatively small, and if the diet has been rightly compounded, very little is necessary. Some go so far as to discard its use altogether, but whether this is wise or not we will not here consider. What are some of the evils of the excessive use of salt? They are to paralyze the nerves of taste, or to pervert them so that they cannot enjoy anything which has not a salty flavor, and in addition there is a direct tax on both the skin and kidneys in removing it from the blood. Whether the skin is harmed by the tax, we do not know. Possibly it is not greatly injured, yet we know that few people possess a healthy skin; but it is now pretty well settled that an excessive use of salt does overtax the kidneys in its removal, and that the great number of cases of derangement and disease of these organs is due to this use. It takes only a little time to learn to enjoy many kinds of food without salt, and we advise our readers and others to look into this matter and to try and diminish the use of this condiment as far as possible. We belive they will be better for it.

Peanuts as a Food for Patients.—Willis Barnes writes in the *Dietetic and Hygienic Gazette:* By refeience to the reports of chemists who have made food tests, it will be found that peanuts contain a larger percentage of nutritive units than almost any other food. Peanuts contain 3,135 units of nutrition in two and a-half pounds. The next highest are bacon and butter, which give 2,700 and 2,600 units respectively. Dr. Fuhrbringer, director of the public hospital at Berlin, Germany, has made extensive use of peanuts as a food for patients. He says: "They are especially valuable as a part of the diet of those suffering with diabetes or corpulency. For those ailing with Bright's disease and chronic disorders, where the consumption of too much animal albumen is questionable, they are most welcome."

Peanuts are not as a rule a household food, and yet they are eaten extensively by the poorer classes on the streets; they really deserve a higher regard and a more elevated place in the diet of the sick. . . . It will be a good move in dietetics to cultivate a taste for peanuts among invalids, for their nutritive value is good, by reason of the large percentage of fat contained.

Horse Flesh as Human Food.—It is stated (*Brit. Med. Jour.*) that horse-flesh still appears to hold its own as an article of food with the poorer classes in Belgium. Recent statistics show that in Antwerp alone nearly 4,000 horses were slaughtered last year for human consumption, and the number of shops dealing exclusively in horseflesh in the Belgian port exceeds thirty. Over 10,000 horses were imported during the year for conversion into meat, this number being largely in excess of the number of cattle.

Culinary Chemistry.—Dr. Wylie, chief chemist of the U. S. Government Food Station, Washington, concludes a recent address with these words: "Heretofore good dinners have been chiefly due to gastronomic art. In the days to come the chemist and the cook are to be co-laborers. Nutritive value, balanced rations and wholesomeness are to share the honors with taste and odor. Perhaps, in the far future, the chemist may be paid as liberally as the cook."

Influence of Diet on the Healing of Wounds.—One of Reuter's special service officials states that he has paid several visits to the hospital in which were being treated many Turkish warriors, and that he was struck by the warlike spirit of the wounded, and the frequency with which they asked the doctors, "Do you think I shall be well in time for the next battle?" These doctors are surprised by the wonderful vitality of the Turks. One man, who had had his stomach penetrated by a bullet, not only kept his place in the ranks till the battle was over, but marched a distance of ten miles afterward. Another, with three wounds, two in the legs and one in the shoulder, continued in the performance of his regular duties for twenty-four hours after their reception, and would probably have kept about until they healed, had not an officer, happening to notice his condition, told him to go to the hospital; and it was with great reluctance that the wounded soldier went.

The doctors remark upon the rapidity with which patients recover from wounds, and attribute it to the abstemious lives led by the Turkish soldiers, who drink no wine, eat but very little meat, and take plenty of vegetables. They are examples of the saying, prevention is better than cure. By their manner of living they escape the effects from which grosser livers suffer when wounded.

A Word Concerning Bread.—If a single article of food should be chosen, with regard for both its nourishing

qualities and its toleration by the system, bread and preparations of wheat, the *Dietetic and Hygienic Gazette* says, must be given preference. Bread alone is superior to meat alone—particularly so when butter is allowed with the bread. But the value of bread varies with the flour employed and the manner of its preparation. The light wheat bread from which all the external portions of the grain are rejected, so universally employed in this country, is certainly deficient in the qualities essential to the support of a hard worker. More nutritious is plain brown bread of unbolted wheat meal, or the same with a mixture of a fourth or fifth part of rye. These facts are not new discoveries, but have long been known to dietetists. Concerning such bread as we have just advised, Dr. Brinton, twenty-five years ago, said that it would for equal money value, "Give the laboring population a food incomparably more abundant and nutritious than that which they now make use of as pure white bread; and in no way could the dyspeptic affluent set their poorer neighbors a better dietetic example than by adopting, were it at some little pains, a bread which might some times cure their own ailments by its mechanical quality, as well as prevent disease and deformity among the lower classes by its nutritive value.

Rations for Shipwrecked Mariners, etc.—Langlois, chief of the Physical Laboratory of the Paris Faculte de Med., comments *La Presse*, April 17, on the terrible sufferings and insanity of the shipwrecked crew of the *Saint Nazaire* (who had six hours for their preparations before abandoning the ship), by urging a reform in the boats carried on board ship. Something is radically wrong, he states, when these boats are swamped and destroyed the moment they touch the water, as so often happens. He suggests the following ration for such cases, combining the maximum of calories utilized with the minimum of bulk: Dutch cheese, (100 grams = 350 calories utilized); sugar (60 grams = 200 C. U.); crackers (600 grams = 100 C. U.) with sardines, etc., as convenient, and especially condensed milk (100 grams = 350 calories utilized), which makes a very nutritious and palatable drink diluted with sea water, as salt improves it for most persons. Two pounds a piece of this ration, or a total of half a ton for twenty-five men, would be ample to sustain life and enable the crew to resist cold and exposure for ten days, with a half ton of water. The boats should be built to carry this amount and protect it from the elements. He disapproves theoretically of alcohol, but adds that the moral effect of a little wine or diluted brandy should not be ignored.

Goat's Milk.—The idea quite generally prevails, says the *Medical Review*, that the milk of the goat is more readily digestible than that of the cow, and that the goat may render valuable service in cases of bottle-fed infants with whom cow's milk does not agree. Goat's milk differs from cow's milk, not in being more digestible but in being less digestible and less nutritious, although it contains a larger amount of solid matter than cow's milk. It is indeed the most indigestible of all milks. It has a peculiar and unpleasant odor and flavor, due to hircic acid or hircin. It contains an excess of fat, and is therefore altogether too rich for an infant's diet, being very likely to give rise to diarrhœa, vomiting, and other symptoms of indigestion. Its indigestibility is due to the fact that it forms exceedingly hard and tough curds.

The cream of cow's milk, well sterilized and properly diluted with water, is much to be preferred to the milk of goats, which is employed instead of cow's milk only in countries in which the cow has not been generally introduced or cannot be easily maintained, and among those who, on account of poverty, are unable to keep a cow.

The Stage Setting of the Neurologist.—Dr. C. Fiessinger (*La Med. Moderne*, Oct. 17, 1896, *Jour. of Nervous and Mental Diseases*) in an article on psychical therapeutics describes the necessary moral and intellectual outfit of the successful neurologist: He must indeed be a universally accomplished man, with the conviction of an apostle, the heart of a St. Vincent de Paul, the strength of will of a Napoleon, the patience of a confessor, the taste of an artist, the philosophic understanding of a Taine, the exquisite taste of a Parisian lady. All these the doctor must have, not to mention a solid learning and thorough education and the private virtues which serve as a basis for all the rest.

We have not mentioned as part of the psychical effect of the doctor on his patient, the stage-setting. Not that it represents an emotional factor which can be neglected, but only because the air of quackery about it is repugnant.

Charcot did not think so; theatrical in his clinic, he was still so at home. Patients coming to consult him did not pass at once from his waiting room into the office; entrance to that sanctuary was not made with ease; a previous initiation must be gone through. This took place in a small, dark room, beautifully furnished, filled with elegant trifles and but feebly lighted. There he waited a quarter of an hour or twenty minutes, time enough to think about himself in the dark. All at once a ray of light penetrated it, a large door began to open, erect upon the threshold, bathed in a dazzling illumination, the God Charcot awaited him.

Compression of the Carotids as a Means of Obtaining Surgical Anæsthesia.—M. Jaboulay says (*Bull. du Lyon Med.*, Oct. 10, 1897) that one may effect prompt and effective anæsthesia by compression of the carotids.

The compression need be kept up but a few moments. The patient will first straighten out, then close his eyes and become quiet. The face turns blue, followed by paleness. Consciousness is only partly lost.

We may now reduce a dislocated shoulder or hip or coaptate the ends of fractured bones. The patient will remain unconscious for a few moments after pressure on the carotids is removed. It is now we may examine a fractured hip, make an incision, or any other rapid movement.

This method is recommended when other anæsthesia is not to be had, or when a brief period of anæsthesia is desirable.

Bad Roads a Cause of Blindness.—Dr. Lucin Howe, in a paper entitled "An Arithmetical and Geographical Lesson on Blindness in New York State (*N. Y. Med. Jour.*, June 20, 1897), calls attention to the curious fact, derived from a study of the U. S. Census for 1890, that, as a rule, easy transportation and good roads are in direct proportion to a low rate of blindness, while bad roads mean a higher ratio.

"It is unnatural to suppose that this disease (opthalmia neonatorum) or any other is more common in the country than among an urban population; it probably is not. But it is true that more precautions are taken in the city than in the country against this principal cause of blindness, and that this and other diseases of the eyes are, in general, more promptly and regularly treated. This is not the fault of one class of practitioners as much as it is the result of the environment of others, for in the vicinity of large cities it is possible for nurses or friends to take a child at once to a physician without much inconvenience or exposure, and where the facilities for travel are great, the mother herself can very soon attend to this. This undoubtedly lessens the proportion of blind in and near the cities. On the other hand, where the distances are great and the roads poor the patients are usually seen late and often only at intervals. That is why bad roads mean a high percentage of blindness."

OBITUARY.

Dr. Wilson Peterson died at his residence, 656 Madison Avenue, February 19, in the sixty-seventh year of his age. Dr. Peterson for many years had a large and influential practice, from which during the last few years he had in a measure retired. A wife and three children survive him.

Dr. Edward C. Seguin died at his residence, 17 West 50th Street, February 19, of cirrhosis of the liver, aged fifty-four years. Dr. Seguin served during the civil war as surgeon. In 1873 he founded a clinic for nervous diseases, in which specialty as an author and practitioner he was extremely bright.

MISCELLANY.

—Births reported as having occurred in the hospitals are 11,000 a year.

—A sanitarium for consumption has been established at Chicos Springs, New Mexico.

—The death rate in New York during the year 1897 was the lowest on record, being 19.62.

—Sucking the juice of one or two lemons is a valuable remedy for excessive menstrual flow.

—The Hospital Saturday and Sunday collections were the largest last year in the history of the organzation.

—Camphor internally in three grain doses, says the *Ohio Medical Journal* will bring about suppression of milk.

—An extension to St. Vincent's Hospital in this city, for charity patients, is now in process of erection, at a cost of $250,000.

—Under the will of the late George M. Pullman, thirteen hospitals and charitable institutions in Chicago will receive $10,000 each.

—A physician of Louisville, Ky., is reported as making a fortune in the Klondyke gold fields, by selling quinine capsules at $3 apiece.

—The control of smallpox is now so efficient that numerous insurance companies do not require vaccination on the part of applicants.

—A recent report from Mt. Sinai Hospital, for the ten years, 1887 to 1896, gives a total of 9,357 cases anaesthetized, with only one death.

—Bilkins—How is Perkins this morning, Doctor?
Doctor—He is at death's door, and I'm afraid I shall not be able to pull him through.

—According to a press dispatch, the bodies of fourteen murdered babes have been found in the past three weeks near Union Hill and Hoboken.

—Since the publication of Dr. Schlatter's case of removal of the stomach, the operation has been performed in St. Louis and Milwaukee with fatal results.

—Dr. Samuel G. Brinton, the archaeologist, said in a recent lecture, that in North and South America no fewer than 120 or 130 absolutely distinct languages exist.

—The plague continues to increase in Bombay. Statistics show the great value of preventive treatment through inoculation, the stronger lymph being more successful.

—The practice of "Trying on" hats in a store is often the cause of conveying scalp disease. This is especially true in the summer, when perspiration acts as an auxiliary.

—The Presbyterian Hospital, one of the largest and best appointed hospitals in the city, appeals for aid to the public, its expenses having exceeded its income during the past year by $72,000.

—Miss Hu King, Eng. M. D., the first woman in China to be graduated from a medical college, has become first physician for the household of Li Hung Chang, the great Chinese statesman.

—Prof. Alsnel, *Practical Druggist* says, is authority for the statement that small portions of equal parts of soap liniment and tincture of aloes will act as a cathartic, if rubbed onto the abdomen of a child.

—A Baltimore judge has decided that faith-cure doctors are not legally entitled to remuneration for their services. He takes the ground that the faith-cure physician renders no apparent service to the sick.

—Old and new-school authorities concur in the statement that not less than five, nor more than seven drops of the mother tincture of thuja, twice a day, will give relief in every case of excessive seminal emissions.

—Henry Ward Beecher once said that the sexton of Plymouth Church had a standing order that when he found anybody asleep in the church, he was to go right onto the platform and wake up the minister.

—The total number of lepers in the world is estimated at 2,000,000, of whom 20,000 are in Japan, 130,000 in India, 300,000 in South America, 500,000 in China, 20,000 in Europe, 40,000 in Turkey and 5,000 in Hawaii and the United States.

—A New York druggist has been fined $150 for practising medicine without a license. This is the heaviest fine yet imposed for such an offense. The Medical Society of the County of New York was the complainant.

—Dr. L. Joseph (*D. Med. Ztg.*, No. 39, 1897) regards three symptoms as especially characteristic of neurasthenia, namely: General bodily weakness, pains in the most diverse parts of the body, and insomnia. Trional is mentioned as the best remedy in this case.

—About two hundred women have been admitted to attend lectures this year at the University of Berlin, after having satisfied the authorities regarding their proficiency. The faculties chosen by them are those of philosophy, medicine and jurisprudence.

—According to official statistics, 107 persons died of hydrophobia in Prussia in the years from 1877 to 1894, but there was not a single death from that cause in 1895, although 368 cases of mad dogs were reported and 906 suspected animals, in addition, were killed by the police.

—For contusions, wash the injured part, and then paint twice daily with menthol in collodion (1—8 or 1—4). Pain will be relieved, and the resulting constriction of the vessels diminishes the discoloration and swelling. This treatment should not be used in case of contusion of a joint.

—The *Medical Record*, quoting from a German exchange, says that a man lost consciousness after implanting 3,750 kisses upon a young woman's lips, in three hours. He had made a wager that he could kiss his sweetheart 10,000 times within ten hours. The condition of the woman is not mentioned.

—After a prolonged consideration of the subject, the Paris Medical Society has come to the conclusion that cycling is excellent exercise for healthy people, is very beneficial for those suffering from nervous disorders, but is undesirable for delicate people, who are liable to suffer from over-fatigue.

—The only specimen ever brought to Europe of that magnificent orchid, Cattleya Reineckiana, was lately exhibited at a London horticultural show. The flower is pure white, with a heart of gold and vermilion, and is shaped like a flying sea-bird. It was discovered in Venezuela, shortly before his death, by the celebrated orchid-hunter, Arnold, and is valued at $5,000.

—It is an established fact in surgery, that profound and even fatal shock may be caused simply by mental impression. Desault relates a case in which he was about to perform an operation for lithotomy, and in showing the class where he was going to make the incision, he merely traced a line, with his finger-nail, and the patient, under the impression that a cut was being made, expired from shock.

—In Great Britain (according to the latest report of the Commissioners in Lunacy), at every age, from twenty to sixty-five and upward, the chance of a single man going mad is much greater than the chance of a married man going mad. At ages twenty to twenty-four, the "odds" against the single man, as compared with the married man, are 5½ to 1, which looks like a strong argument in favor of early marriages.

—Dr. Irving C. Rosse, the well-known neurologist of Washington, has reached the same conclusion as have many surgeons—that "hydrophobia" is nothing but tetanus (or occasionally some acute inflammatory disease of the cord or meninges). Dr. Rosse is so convinced that there is no such disease as hydrophobia that he has offered over his own signature a reward of $100, in the interest of science, to any one producing a well authenticated case of the same in man or dog.

—Iceland (says the *Churchman*) offers such exceptional advantages and opportunities to the sportsman, the tourist, the naturalist, the mountaineer, and the seeker of health, that, in no distant future, it is destined to become the tourist field of Europe. The glaciers of Switzerland, the fjords, the salmon rivers, and the midnight sun of Norway, are all there, and, moreover, the volcanoes, grottoes and solfataras of Italy, the mineral springs of Germany, and the geysers of the Yellowstone Park. Nowhere has nature been so spendthrift in assembling wonderful phenomena on one spot.

ORIGINAL ARTICLES.

THE ETIOLOGY AND THERAPY OF DIPHTHERIA.

A Plea for the Vito-Chemic Cause of Disease Versus the Microbic Theory and Treatment by Animal Serum.

By Elmer Lee, A.M., M.D., Ph.B., New York,

Vice-President of the American Academy of Medicine; Chairman of the Section on State Medicine, American Medical Association; Member of the Committee on Revision of the U. S. Pharmacopœia, 1890; Secretary of the American Social Science Association; Member of the Medical Society of the County of New York.

THE idea largely prevails in the profession that active principles not vital, are introduced within the human organism, thereby causing disease, and disease in turn is thought to be curable by the introduction of other foreign and non-vital matters into the system, either through the natural channels or by way of punctures in the skin. This interpretation of vital activity is contrary to physiology and represents an error of very ancient origin. The continuance of such unscientific notions of the cause and the cure of disease is prone to keep physicians in uncertainty and tends to perpetuate empiricism. The physician should be a master in medical science, and not the servant of popular and periodic medical fads, frequently incubated by the lay reporter and wafted over the earth by the breath of the secular printing press.

And so long as true medicine is regarded as an art which is dependent upon the validity of cumulative experiments, even by "competent observers," there is not any great hope that agreement among physicians will ever take the place of the present assortment of opinions and their brood of disagreements referable to the practice of medicine.

There are many opportunities present in each experiment for mistakes, and as appearances are truly deceptive, affording room for questions pertaining to the reliability of data, is it possible in the midst of so much conflict of opinion to agree upon the treatment of disease, if it is to be decided by experiments based upon an incorrect interpretation of invisible forces existing as active living principles? It is equally required to understand the methods of vital activities before it is possible to construct correct therapeutics, as it is to comprehend the distinctions between pounds, ounces, and grains.

When it is recognized that the supposed introduction of active principles, either of disease or for its cure from without is not possible, and that all active life forces are manifested through the inherent vitality, it is then possible to understand the distinctions between special activity of the voluntary and involuntary organisms and their causes. The voluntary is set in motion in obedience to the mind, while the involuntary is set into special action in response to sensation.

Vital force is divisible into sensibility, instinct, sensation and contractility. Sensibility is a property of the mind and represents the intellectual function, such as ability to originate ideas, think, exercise reason and experience a multitude of emotions. Instinct includes and pervades the whole organism and superintends the involuntary activities, including those called physiologic functions, and their opposites called pathologic, or active disease. The mind selects the food while instinct arranges it for the growth and repair of the body, retaining the useful and excluding the excess, together with the waste produced from chemic action. This function is always active and never ceases its influence till death.

Sensation relates to the contact world, and its subdivisions include such terms as taste, smell, heat, cold, hunger, weariness, nausea, itching, and pain, excited from contact relations, and may be normal or abnormal. Irritability is a term which represents disagreeable sensation, and is not a distinct and separate function sense perception. The sensation function constitutes the whole list of subjective symptoms which are made the basis of treatment by a large majority of the profession, whereas sensation, either normal or abnormal, is but the intervening connection between cause and effect. Sensibility and sensation, one a mind function and the other a function of organic life, are used by "authorities" interchangeably and incorrectly.

Contractility is a function exercised by muscular tissue, and is controlled by the mind in its voluntary activity, and by instinct for the involuntary. A proper understanding of health and disease depends upon a correct interpretation of the preceding four departments of vital force and their subdivisions.

These vital functions can be both normal and abnormal. The sensibility may become insane; the instinct may construct malignant growth and exercise pathologic action. Sensation may be represented by irritability and pain; and the contractility may be expended in convulsions until exhaustion and death. Disease is what each division of vital force performs under the name of abnormal action, and is not produced by an active principle from without, but has its origin from the action of a vital principle existing within.

The ancient idea that a devil within the body introduced from without was the cause of disease is still entertained, and is literally proclaimed from the rostrum and pulpit at this very time, and while medical men discredit this foolish doctrine they accept that which is much the same when they teach that disease attacks the body, or that it catches a cold, or that some active principle has chanced to get in from without that is acting detrimental to the human organism. The fear of catching something, or a stroke from some imaginary disease, is present at all times in every community, by the consent of the profession and through the activities of the modern boards of health, whose prerogative has strangely devel-

oped a medico-political organization, originally created for the abatement of nuisances, into instructors for the medical profession.

The cause of disease produces disease, whether it be named diphtheria or otherwise, through its contact, producing an abnormal sensation, in response to which pathologic action is begun. Active disease and pathologic vital action are one and the same thing. It is the contact of foreign matter generated within or without the organism which produces abnormal sensation, and the involuntary organism is set in motion which induce symptoms that indicate that which is called active disease. Abnormal sensations initiate abnormal involuntary activity, which is active disease, and active disease is recognizable by subjective and objective manifestations.

The causes of disease are divisible into primary and secondary; the first class is introduced from without; and the second class is developed within, through the contact influence of the agency introduced from without. Each class causes abnormal sensation, which is the beginning of disease.

The primary factors of disease include foreign matter and excess of quantity and vitiated quality of food. The secondary factors are to be included under pathologic fluid products within the body, the result of abnormal chemic action with or without abnormal temperature. The secondary causes are those serious factors of disease constituting a large variety of toxins or blood poisons. In this class it is proper to include exudates which have undergone chemic changes through oxidation. It is at this moment that the germ theory of disease finds some apparent support from an imperfect understanding of the relations of micro-organisms to the secondary causes of disease, together with the belief that disease is caused by some agency from without. Wherever there are pathologic fluids, which are the blood toxins of disease, there can be found micro-organisms, which, from their presence, it is assumed that they are the perpetrators of crime, instead of which, the microbe is innocent of harm, in fact, a benefactor. Thus has developed a mistake of huge proportions, which has created an innocent microbe, merely found feeding upon pathologic fluids, into a colossal system of diagnosis and therapeutics, which, for the time being, is a serious embarrassment to the practical treatment of the sick.

The micro-organism has a most important place in the universe, and their presence is admitted wherever abnormal human vitality is in active operation. But microbes are not germs, for they cannot develop into higher organisms nor can they generate toxins, since they are without glands; they can only absorb and divide, and with vast rapidity, and die when the suitable nourishment is exhausted. Theories are useful only when they aid in the rational selection of a proper treatment for pathologic conditions. Certain methods of treating disease have been popularized through a misunderstanding of the true nature of the causes of abnormal or pathologic action, but the treatment, after all, is chiefly based upon empiricism, a state of practice which it is the hope of the profession will sooner or later be excluded from the science of medicine.

As there are primary and secondary causes of disease, and as these factors are capable of division into a vast variety of degrees, in their toxic properties and vicious influence, it is seen why it is possible that disease can take protean symptoms. Certain symptoms representing abnormal vital action form the basis for a nomenclature which has been arranged for convenience in classification. The leading treatment should be directed to elimination of pathologic products already within, and the suppression of the cause.

High temperature is a secondary cause, and unless checked it will often lead to further complications, which thereby increase the danger. It is important to determine early what is the factor of greatest importance, in order to decide whether it is wise to employ elimination, introduce antiseptics, reduce temperature, deploy vital activity or abrogate sensation.

Disease is a condition with both local and general manifestations, caused by material both from without and from within, and not an attack by something that can be expelled or become migratory. The cause of disease may be transported, and when it finds its way into the body the vital energies are so disturbed that abnormal action is the result. When it is understood that foreign materials from without produce abnormal sensations within, and these, in turn, interfere with normal vital action, thereby constituting disease, it will help to a recognition of the different methods that may be used for the removal of the cause. Vital energy unaided will, if left to itself, frequently remove the cause and restore the organism to health.

Medicines introduced within produce abnormal sensation, which is a cause for special vital activity, and this is what is recognized by the physician as medical action. One set of abnormal sensations may be masked by another set, and this constitutes the explanation of the popular system of practice, and refers equally well to the phenomena occasioned by serum treatment. But such treatment is empiric, and ever must so remain, for it depends upon experimental data, and with a body whose chemic state is ever changing, even in the same individual. The unification of the profession and the exaltation of medicine to a level which would entitle the physician to that recognition which nature intended, seems a far distant realization if continued empiricism is to be the hope of the medical art for reliability.

As a sequence of pathologic action, specific virus is manufactured within the living organism, and when such *materies morbi* are present in toxic proportions, active disease naturally follows. The microbe absorbs such material for food, and thus may become a carrier of poison, but such toxin is merely contained within the shell of the microbic cells and is not their own product. Pasteur uses these words: "Micro-organisms may be harmless or otherwise, depending on the quality of the material from which they are constructed." Thus a contagious disease, like diphtheria, is the result of a disturbance of normal vital functions whereby chemic materials or toxins are manufactured, that as secondary causes excite abnormal vital action. The principal signs of such abnor-

mal action is manifested by elevation of the temperature and loss of appetite associated with failure to digest and assimilate nutrition.

During the time that the abnormal chemic fluids are present in the body, micro-organisms find suitable food for development, and perish when such food supply is arrested in the process of restitution. The millions of micro-organisms do no harm to the organism within which they are developed, but contribute to make the autochemic virus less dangerous and aid in its elimination.

The microbe when filled with pathologic chemic material then becomes a pathogenic organism, and if transplanted it is possible to excite pathologic action by the chemic toxin previously absorbed from the human organism in which it was manufactured. Thus it is easily explained why microbes found in the throats of human beings may or may not be pathogenic. It depends not upon the micro-organism, but whether the active vital energies are normal or abnormal, and whether the fluids of the human organism are normal or pathologic.

When the system can no longer manufacture the special virus which causes diphtheritic pathologic action, the disturbance will terminate, and this termination is entirely independent of the supposed action of any specially named microbes; it depends wholly upon the restoration of normal vital action. The chemic construction of the virus of a contagious disease is seldom produced but once in a lifetime, and the danger to life consists in the excess of such virus when compared to the bodily powers of elimination.

With an elevated temperature of the blood, pathologic vital action will develop such chemic poison more rapidly, and at the same time elimination is retarded by the condition of capillary congestion. The so-called germ is not an enemy of health, it merely derives food from the products of pathologic vital action; the microbe is simply a harmless scavenger and entirely harmless to the organism in which they develop, increasing in vast numbers when supplied with proper food, and perishing as soon as the food is stopped. The microbe by virtue of its cell formation is able to bottle up the chemic virus and thus preserve its toxic nature for a time, or till destroyed by chemic action. But there is likely to be nothing permanently gained, in the treatment of diphtheria, by the use of artificial germicides, microbe-killers or antitoxins, except experience and probable therapeutic disappointment in the end, whereas, rational and physiologic treatment looks to a prevention of the formation of the dangerous poison compounds, and of disease caused by toxins produced by chemic changes in the system and not by microbes. The germ theory of disease, which has added but little to the true understanding of pathology and less to the therapeutics of the practical physician, seems destined to comet-like pass from view.

Here is the admission of the committee of the American Pediatric Society for 1897, in the following words: "The mortality of laryngeal diphtheria at present rests at 21.12 per cent. and the mortality of operative cases is at present 27.24 per cent" Then comes the following apology for the high mortality under serum treatment: "(1) That antitoxin is still used too late, either from procrastination on the part of the physician or objection on the part of the friends; or (2) used in a half-hearted way, which shows itself in doses from one-tenth to one-fourth as large as they should be. In truth, both the physicians and the friends of the patients are timid. This report it must be admitted shows too large a mortality." It might properly be asked, what basis is there for promises of better results for next year, and the future, along this line of experimental treatment by animal serums? Doubt already fills the mind of the profession as to a realization of better therapeutics under serum-therapy.

Dr. Grasmuck believes diphtheria only a phase of albuminuria, and refers to the fact that the fat, sleek, soft, tender and well-fed children can offer but slight resistance to the disease; being chronically diseased with over-fat they are predisposed to pathologic actions of all kinds, whereas the children who spend most of their time in the open air, are thinly clad, sleep in cold rooms, have a spare diet, and who have no one to pamper them unwisely, often escape this disease and rarely die from it.

Treatment.—Earnestly believing, then, that diphtheria is a disease produced by the accumulation of auto-generated chemic toxins within the entire organism, produced by pathologic vital action through the introduction of foreign material from without, including excess of quantity and vitiated quality of food, together with consequent improper nutrition, mal-assimilation and imperfect elimination, the first physiologic requirement looks to a cessation of the cause. An immediate and remediable primary factor of disease consists of yeasty ferments dependent upon deficient gastro-intestinal chemic action upon the chyme and chyle, whereupon, reason teaches that in severe cases the first therapeutic indication is to stop all foods, stimulants, tonics and other agents of a like nature. Therapeutic fasting may be maintained till the fever falls to normal or nearly normal, for Gluzinski has demonstrated that the gastric juice contains no hydrochloric acid while fever continues, consequently there can be but incomplete digestion. It naturally follows that food undigested is foreign material within the organism, and as such excites abnormal sensation and pathologic vital action, with further production of toxins. The best time to abstain from food is from the beginning of the disease, and a therapeutic fast may go as long as from one to five days without fear of harm, and with decided advantage to the patient.

The second important indication is to cool down the fever, thereby reduce congestion, and thus enable elimination of toxins to go on, and, soon as possible, even exceed the production of the virus. This is accomplished by the therapeutic uses of water in the broadest sense, including all scientific hydrotherapy applicable to the individual case. Great reliance is placed in the drinking of plain or distilled water in definite doses at regular intervals, to the extent of one-twelfth or less of the whole weight

of the body per day. As additional assistance in strictly scientific therapy, irrigation, enteroclysis, hypodermoclysis, baths and intervenous injection may be employed. Distilled or pure water should be administered by mouth at short intervals and in definite doses to the patient, and to such extent as to lower the specific gravity of the urine to a sp. gr. of 1,010, even 1,000, or water itself. Cool draughts of pure water, either plain or slightly flavored with grape juice or other fruit juices, together with therapeutic fasting till convalescence, are to constitute the most important essentials of treatment. Hot water flavored with tea leaves is frequently gratefully accepted by the child, at the same time producing slight stimulation, useful and desirable in certain weak and much prostrated cases.

The therapeutic effect of the use of water in the preservation of life is first, by diminishing that secondary cause of disease, existing as high temperature of the blood. Second, decreasing the rapidity of virus production. Third, diminishing the capillary congestion, thus enabling the pores to eliminate more rapidly. Fourth, flushing the system with water to wash away the poison. Fifth, by the addition of water in therapeutic quantity to the blood, the gelatinous material in the exudates upon the mucous membranes is made to lose that property of agglutination which constitutes the diphtheritic membrane of the pharynx, larynx and trachea.

In extreme cases intervenous transfusion, or hypodermoclysis of normal salt water may be used, sometimes to the rescue of what might be otherwise a hopeless case.

The bathing is not necessarily limited to cool water; it may be desirable in certain delicate children to recommend warm water baths, with friction. The bath need not be prolonged, one full momentary dip of a young child into water of 70 degrees to 90 degrees, once in three hours during the fever, is a safe and practical measure.

The fast may be broken by offering the patient a small piece of dry bread; if it is refused it would be unwise to tempt the child with other nutrient material. The object, of course, is to test the requirements of the system for food, which is a safe guide up to the fifth day, as a rule. When convalescence is established, the food may consist of good bread, and beef nicely broiled, in small portions, and at intervals of four to five hours is sufficient for the first week or two, in the cases of children old enough to eat. In younger children, cow's milk at suitably long intervals, four to six hours, and in moderation is the proper diet. This dietary may be considerably augmented according to circumstances, simply taking care that the quantity of food is safely within moderation, and not taken too frequently.

Fresh air should be freely and constantly admitted to the sick chamber, and there need be no fear of harm by either drafts or too much cool air. The light admitted, except in hottest weather, should be limited only by the size of the windows; a room flooded with light is in perfect accord with the highest interests of the little patient from a physiologic standpoint.

A throat compress, alternated between hot and cold water, should be kept around the neck as a rule. The nose washing and the gargle are useful when required. They may do some good, but frequently make much inconvenience, also a torment to the child. When a throat wash is indicated, water slightly medicated with hydrozone, pyrozone or peroxide of hydrogen, is satisfactory, and at the same time always safe.

The elimination of pathologic fluids and morbid matter through the glands of the colon is greatly augmented by a judicious daily use of a sufficient irrigation of warm, soapy water—the temperature of which should be from 70 degrees to 100 degrees, according to the degree of the fever and the strength of the patient. Drug medicines should be limited to an occasional employment for purely temporary effect, and are placed last in a physiologic system of therapeutics, because the practice of the profession has found them of little value at their best. In the management of diphtheria there may be a need for sedation or analgesia, in which case there can be no objection to the use of any one of the common chemicals for that puprose, provided it is for temporary effect, and that it does not obscure the main line of treatment. But when properly administered, the essentials of scientific hydrotherapy, with its auxiliaries, constitute a remedial system which approaches more nearly to ideal therapeutics than any other that the medical world has been able to discover, and is likely never to be superseded. Hydrotherapy of to-day is scientific, at the same time effective, both in the prevention of sickness and for the cure of disease.

The plea is for hydrotherapy and its auxiliaries, for a scientific profession of medicine, with drugs as non-essentials, though admitted to be sometimes seemingly useful in certain emergencies, yet incapable of forming a successful fundamental basis for scientific therapeutics.

10 West 49th St.

BEEF TEA AS A FOOD.—POINTS ON REGIMEN IN PREGNANCY AND THE LACTATION PERIOD.

By Dr. Charles E. Page, Boston, Mass.

WERE I shut up to a choice between a portion of beef tea and one of pure and simple urine, I should take the tea. It is beyond question less disagreeable in odor and taste, and there is usually a difference in appearance between the two, but not always. The worse the quality of the urine, the more heavily it is charged with waste and effete matter, the closer its resemblance to beef tea, which one eminent physician has called a ptomaine solution. In our boyhood days our grandmothers and the good old women nurses often employed a "favorite prescription" called chamber-lye and molasses (sweetened urine), but no matter how sweet they mixed it none of us ever became fond of it, and we never took enough of it, perhaps, to do us any material harm. But this cannot be said of the victims of

beef tea, when in sickness they take it in considerable quantities day after day, in place of food, as is still quite common in hospital and private practice, simply, of course, because the truth of the matter has not yet become generally known.

When made in the most approved manner beef tea is composed of about ninety-seven and one-half parts of water and two and one-half parts of the waste and effete matters of some dead creature. It has, without doubt, some nutritive value; but this is so slight in amount, and its toxic elements so mischievous, that it is doubtful if life would be as long sustained on beef tea as on pure water, whether the subject of the experiment were sick or well. In other words, clean water is better for all purposes than dirty water, and particularly when the polluting elements are derived from a cadaver and the question is that of feeding a sick or ailing person.

On fresh water alone any well-conditioned man would thrive for from forty to sixty days, as has been clearly shown by the experiments of Dr. Tanner, John Griscomb and the Italian, Succi. The writer visited the Dime Museum at Boston on the occasion of Succi's exhibition there immediately after his New York fast of forty-five days, and this fasting freak actually looked far less pinched than dozens of lean dyspeptics in the audience who had doubtless eaten three square meals every day while Succi was living on water alone, or rather on air and water alone, so far as concerned nutritive material from without. Of course we know that the solid food consumed was the solid, fresh muscle and fat of his own body. On this diet John Griscomb subsisted forty days, during which he took a daily walk of six or seven miles, exercised on the health-lift an hour or more every day, and attended to a very large correspondence, keeping bright and cheerful all the time. Thin and emaciated persons, sick or well, will subsist on this diet relatively as long, never starving to death, though they prayed for that, till about all of the flesh of the body is consumed. Among the scores of cases of fasting by scientists, freaks, insane persons, etc., recorded by the writer, is one of a poor bedridden and discouraged woman who sought to end her own life by starvation, her efforts having been crowned with success on the fifty-fifth day. Had this poor lady's natural desire for life continued, and her physician had sought to nourish her with beef tea alone, and had she died in forty, instead of fifty-five days, it would doubtless have been said that she died of her disease after having been "kept alive with beef tea" for so long a time! Her physician and friends would have remained ignorant of the fact that she died of starvation and ptomaine poisoning.

It is, of course, pure ignorance on the part of nurses and medical men and women which leads them still to offer beef tea to their patients in place of pure water when the system is temporarily in no condition to take food, as in gastritis, or when overeating has banished the appetite for a time; or in fever, when the entire organism is parched with drouth and the stomach bereft of its natural dissolving and preserving juices, and when water alone is the one thing demanded by nature to promote a cure. In all such cases forced feeding is murderous, albeit it is almost universally resorted to in hospital and private practice because, of course, the true lesson taught by the many fasts of men and other animals has not been generally made known.

If one were to judge from the almost universal practice among physicians and nurses of coaxing, forcing or in some way stimulating the appetite of sick and ailing persons in face even of the strongest protest of nature, viz.: nausea, vomiting, and a loathing of even the very thought of food, he must conclude that the profession in general had failed to comprehend the true significance of such experiments, and that for a patient to skip a meal or two, or wait a day or two for the return of hunger, meant in their estimation to incur the risk of starvation. For example, to describe a case recently coming under the writer's notice: A young wife in bed with her second babe; a very healthy woman and a normal delivery; nothing to be anxious about; patient in good strength and natural appetite, with a fair prospect of supplying the child's nourishmnet naturally. A little too free eating has driven away her appetite. A meal or two skipped, or an entire fast day indulged in, and she would have been hungry and food would have done her good. But she "must eat to keep up her strength, and to supply milk," said the good old grandmother, and the doctor heartily agreed with her. Egg-nog, beef tea, milk, some sort of slop-food, was urged upon the poor creature every two or three hours, with the natural result that she was exhausted from these constant outrages. I found her having night-sweats, chilly, absolutely no strength left, faint, discouraged, breasts empty, baby must be shut up to artificial food; and all this miserable business the result of the lack of a little knowledge and good sense on the part of the attending physician. But for the folly of forced feeding, and very bad feeding at that, this young mother would have convalesced from her confinement readily, she would have been able to nourish her babe naturally, and all would have been peace and quietude about the house in place of a degree of anxiety such as tends to make what should be regarded as a simple physiological process seem a thing of all others to be dreaded.

In contrast to the above experience and by way of showing the effects of a regimen in childbirth quite the reverse of what must be regarded as the prevailing one, the writer will cite the case of a woman who gave birth to a babe on Wednesday March 9, of the present year (1898), in the afternoon. The birth was normal, very little pain followed by some fatigue, naturally; a peaceful sleep and rest, the mother able to be out of bed and on her feet the same night; up and dressed and about the house within a week, and all with no slightest anxiety or inconvenience or flurry. It is well to observe in this connection that the preparation for childbirth differed markedly in the two cases here recorded. In the first instance there was a lack of sufficient outings and exercise during the gestation period, while there was free feeding and even forcing of the appetite much of the time, all of which is contrary to nature's

laws and certain to produce ill condition, "morning nausea," etc., at a time when the system should be at its best. In the second instance there was a fair degree of exercise in the open air every day, storm or shine, up to the very day of confinement. After that no food except in response to hunger; moderate portions three times a day at first—a small piece of plain stale Graham bread, a few stewed prunes, or apple sauce, and a readiness to skip any meal in absence of a genuine appetite, or any rise in temperature. In any fever the chief remedy is fasting and profuse water drinking, together with such hydrotherapeutic treatment as may be indicated. It takes but little in the way of indiscretion in diet to give the lying-in woman a setback. For example, a single glass of milk on top of each moderate meal, being that much in excess of the needs of the organism, may easily run the temperature up to 102 any day, and cause the patient to suffer a splitting headache, a wakeful night, and great risk of serious disease.

An instance illustrating this point occurs to my mind at this time: a young mother was apparently making splendid progress toward complete recovery of normal strength after confinement, but being very fond of milk she allowed herself to over-indulge in the manner above suggested. The cumulative effects of malassimilation reached a climax one night and her temperature run up to 105, an affection of the inner ear was aggravated to the point of most excruciating pain, the brain "set on fire," and a condition so alarming as to justify a consultation of very wise medical men. The writer advised a complete fast, as the sensible means of "taking the back-track," that is undoing the mischief of over-feeding; profuse cold water drinking; appropriate hydrotherapeutic treatment for the local disease (cold compress constantly freshened), with general sponge bathing to promote comfort and to keep the skin moist, and in case of continued hyperpyrexia the bran bath, as in typhoid fever. My views were actually sneered at by my associates, who regarded the fasting scheme as foolish and dangerous. They urged forced feeding, removal to the hospital, with the probability of an operation for evacuation of pus, as the only certain means of saving the patient's life. I refused to agree to this plan and controlled the case in spite of all opposition. The first twenty-four hours' fast lowered the temperature markedly, rendering the bran bath unnecessary, and the patient got a good night's sleep, and convalescence was safely secured. She fasted eighty-four hours, and then the temperature being nearly normal, patient actually hungry, tongue clearing, etc., she was allowed a small piece of stale Graham bread, "dry on the tongue," which was eaten greedily and digested and assimilated perfectly.

Again at noon and at night the same little dose was allowed. The following day a little bread and fruit three times a day. No milk, cocoa, nor any other unnatural drink such as is usually given to such patients was permitted, and from the first everything followed just as I predicted and fully expected. But even now I am more than doubtful if my associates really gained any knowledge for the benefit of their patients and their own reputation from their observation of this case.

SURGICAL TREATMENT OF INTERNAL HEMORRHOIDS.

By T. W. Basinger, M.D., Petersburg, Ind.

As the profession no longer recognizes any treatment for hemorrhoids as curative, except some method of surgical procedure, I will, therefore, spend no time in discussing palliative treatment. Neither is it my object in this short article to discuss the technique of all the different surgical operations for this disease, but mainly to consider the merits of the different operations.

Now, the only excuse that I have to offer for writing upon this topic is the fact that some men in the profession, who are surgeons with fair ability, continue to practice methods of treatment and resort to the employment of operations for the cure of piles which are unscientific and non-surgical.

When a patient says he wants his hemorrhoids cured, we say to him that he must be operated upon. Then comes the question: "What operation shall we perform?" We have many operations from which to make our selection.

At the time Mathews wrote the first edition of his book there were thirteen known surgical operations for hemorrhoids, and since then several others of more or less repute have been reported. Many of these operations, however, are now obsolete.

We will now briefly notice some of the operations which are still being practiced. One of the new methods of operation which deserves notice is that by Dr. H. M. Bishop, Los Angeles, Cal., published in Mathews's Medical Quarterly, Vol. 1, No. 3, page 388. The title of this article is: "A new, bloodless operation for the excision of hemorrhoids, with healing by first intention."

In brief, this operation consists in rendering the perineum aseptic, dilating the sphincter and grasping the base of the hemorrhoid with suitable forceps, then between the clamp, or forceps, and the adjacent healthy tissues apply, on either side, small, hollow, elastic tubing of proper length, and secure with aseptic catgut, after the manner of the quilled suture. Then remove the forceps and excise the tumor close to the tubing with flat scissors. No hemorrhage follows, and union is secured by first intention. Borated gauze is introduced into the rectum, with one end left protruding. The catgut softens in due time and the tubing is allowed to pass away.

Dr. Manley, of New York, has a bloodless operation which is a method of crushing, by grasping pile tumor with thumb, middle and index fingers at its base and put on full stretch and twist until the tumor is reduced to a pulp. The mass is then pressed up inside the sphincter, a suppository of opiums introduced, a pad and bandage are applied and patient put to bed. A painless inflammation of the rectum follows, reabsorption takes place, and the vascular masses are shrunken to diminutive stems. In two or three weeks the patient is well.

Another new method of operation was recommended a year or two ago by Dr. Ricketts, of Cincinnati, with which I was very favorably im-

pressed—the particulars of which I can not recall. In substance, he recommended the ligation of the vessels which supply the pile tumor, by introducing a needle armed with a ligature through the tissues at the base of the hemorrhoid, going around the vessels and bringing out the ligature at the point of entrance and tying sufficiently tight to shut off the circulation in the pile, thus producing a radical cure.

Dilation of the Sphincter Muscles.—This treatment is said to have originated in France, where it has been practiced most. But, nevertheless, it has found its way to this country. However, this operation has but few advocates, if any, among the regulars in this country. But it is a hobby that some of our irregular brethren like to ride. Relief may be obtained by the use of this method, not by benefiting the hemorrhoids materially, but divulsion of the sphincters may aid in overcoming constipation, thus relieving the congestion of the parts, causing the piles to become smaller, which will, in some cases, prevent them from coming down. And if they do protrude after the muscles have been well dilated and the constipation relieved, they can be replaced with more ease and less pain. If the piles fail to come down after this treatment, the patient is sure to think he is cured. Ulcer of the rectum may be relieved and fissure cured by this process. But I am free to confess that I have no confidence whatever in this operation, so far as radically curing well-formed internal hemorrhoids is concerned. There is a man in our town who recently informed me that he had his rectum dilated two or three times a week nearly all of one summer, but did his piles no good.

Excision.—This is an operation from which one may get good results, that is, so far as eradicating the piles is concerned. Allingham says that it is one of our best operations. But, notwithstanding that it may be a good operation, it is certainly a very dangerous one, owing to the liability to hemorrhage. Therefore, it can never become popular, as we have other operations which are just as reliable and fraught with much less danger. It is an operation that I would not think of performing.

Crushing.—This operation was given to the profession by Mr. Pollock in a paper which appeared in *The Lancet* in 1888. I have never seen this operation performed. Good results may be obtained by this method, though I cannot speak from personal observation. But, like all other operations, it has its advocates. Mathews says that "after seeing Pollock's report, I was inclined to the idea of crushing as a means of curing internal hemorrhoids, and the results were very good." But after antiseptic surgery came into use he abandoned the operation, thinking that there was danger of sepsis from leaving the stump of the crushed pile in the bowel.

Whitehead's and the So-called American Operation.—This operation for the cure of hemorrhoids was proposed by Mr. Whitehead, of Manchester, England, a few years ago. I regard this operation as one of the most objectionable that has ever been proposed for hemorrhoids, because it is difficult, tedious and bloody. Then, another serious objection is the danger of failing to get union by first intention, a result one is liable to have, thus producing suppuration and danger of sepsis. Then, again, this operation can not possibly be done without complete anesthesia. I think it could never be used in tubercular cases. There is danger of suppuration, which may be continued indefinitely without union of the cut surfaces being effected, thus requiring the patient to keep his bed, or at least confining him to his room, which would be very detrimental to a consumptive. Therefore, as we have other operations which are applicable to all cases of internal hemorrhoids, why use the Whitehead operation at all? In my humble opinion the Whitehead operation is not essential to the successful treatment of any case of internal hemorrhoids, and only justifiable in a very few cases.

The So-called American Operation is only a modification of the Whitehead operation, practically the same. This patriotic name was given this operation by Pratt, of Chicago. The difference between the two operations is that Whitehead begins by making a circular incision at the junction of the skin and mucous membrane along the verge of the anus, following what is known as "Hilton's White Line." He then dissects up the mucous membrane as high as the piles extend, generally about an inch, so that the dissected part hangs loose in the anus. The cuff is then cut off above the level of the piles and taken away, and the arteries are ligated as fast as they are severed. The mucous membrane remaining above is then drawn down and stitched to the cut end of the skin, hoping to get union by first intention. Pratt and his followers changed this order of procedure by pulling down the mucous membrane and making the upper incision first and the lower one last. For this slight variation they have adopted the pompous title of the "American Operation."

Dr Andrews gives statistics (Mathews' Medical Quarterly, Vol. II., No. 8, page 306) showing bad results in 201 cases, seven of which terminated fatally, after the Whitehead and American operations.

The Injection Method.—We are indebted to Dr. Edmond Andrews for giving us the history of the origin of this operation. He says that a young physician by the name of Mitchell, who lived near Jacksonville, Ill., was the first to use the injection of carbolic acid for the cure of hemorrhoids in the year 1871. The knowledge of this new remedy spread rapidly, and for a time it was pushed with great energy. Some of the doctor's itinerants began to sell the secret to others, pledging them to secrecy and limiting their practice to localities in which they lived. Dr. Andrews, in 1876, obtained information of one of these itinerants in regard to this method of treatment. He also learned, by correspondence with these parties, a great deal as to the result of this operation. The following accidents were reported to him out of 3,304 cases: "Deaths, 13; embolism of liver, 8; sudden and dangerous prostration, 1; abscess of liver, 1; dangerous hemorrhage, 10; permanent impotence, 1; stricture of the rectum, 2; violent

pain, 83; carbolic acid poisoning, 1; failure to cure, 19; severe inflammation, 10; sloughing and other accidents, 35." Statistics are not always very reliable, and many times are far from correct. It all depends on the care with which they have been prepared. It is reasonable to suppose that these itinerants would report their work as favorable as possible. The chances are that their failures and bad results were not all reported. Mathews, after resorting to it in forty cases, abandoned its use as unsafe and not wholly reliable. He reports one case of dangerous inflammation in twelve hours after the operation. He reports another case where the injection failed to cure, and twenty days after a large pile tumor was treated by the ligature operation. Likewise, Allingham objects to this operation for the same reasons that Mathews does, viz.: That death is to be feared from peritonitis, from embolism, from pyemia.

Dr. Cook, of Indianapolis, says: "If we attempt to cure all cases of internal hemorrhoids by injection, we will fail in a certain number." After giving certain rules, he further says: "Since I have observed these rules in regard to the selection of cases and have pursued this method of injecting, I have not once regretted the use of the acid in this way. The results have been satisfactory, both to the patients and myself, and the accidents are not more numerous than we see from any other method."

A few years ago Kelsey advocated this treatment and applied it to all cases, but I see in the last edition of his book that he has modified his views, and now uses it only in selected cases, tumors of moderate size, pendulous and swinging from the wall of the bowel well above the sphincter. He does not consider the operation dangerous to life, and has never yet seen a fatal case. He enumerates the following objections to the operation and the unfavorable results that may follow: 1, pain; 2, ulceration; 3, marginal abscess; 4, fistula; 5, the impossibility of giving any definite prognosis as to the length of time necessary to effect a cure, or the amount of suffering the treatment will entail; 6, the fact that the treatment deos not result in a radical cure in all cases, that the tumors may reappear.

This operation was seldom referred to (except to condemn it), and never performed, at the Chicago Policlinic and Hospital, which I attended in 1892. Neither was it performed or recommended by Dr. Bacon, of the Post Graduate, under whom I took a special course in 1895. Dr. Mathews had, before I attended his clinics, abandoned the operation. Therefore I have never seen the operation performed, but saw one case some two or three days after the piles had been injected. That it is an easy operation to perform I have no doubt. That many cases of internal hemorrhoids can be cured by this method I dare not question; that all cases cannot be radically cured by this form of treatment I am fully satisfied. Then, it is not applicable to all cases. That some patients might submit to this operation, who would not have any other operation done; but is that an argument in favor of the merits of the operation? This operation has never looked to me like legitimate surgery. Therefore I prefer another operation for my cases.

Clamp and Cautery.—This operation is usually associated with the name of Mr. Henry Smith, of London. Not that he devised it, for that credit must be given to Mr. Cusack, of Dublin. Nor did he first introduce it into London; that was done by Mr. Lee. But Mr. Smith has been an ardent advocate of the operation, and has probably used it more than any one living for the cure of internal hemorrhoids.

Allingham condemns this method in strong terms. Dr. Cook, who has been using this operation for several years, finds it a reliable operation and likes it better the more he uses it. Both Mathews and Bacon use this method of operating in selected cases, but they admit there is more danger of hemorrhage after this operation than from the ligature method. Mathew says: "The period of convalescence is very long, frequently more sloughing of the tissues than was intended takes place, and we all know how natural it is for extensive scar tissue to follow burns, therefore, contraction of the anus and rectum is to be feared."

Having other operations at our command, which are more simple of execution and not fraught with so much danger, I can not see the advisability of using the clamp and cautery for the removal of hemorrhoids, except in special cases. This operation has always looked barbarous to me. It seems to me that a patient must necessarily regard this operation as a horrible remedy, when he thinks of having his anus and rectum burned with a red-hot cautery iron. But notwithstanding that, it will, when properly used, effect a radical cure. Of all the surgical operations for hemorrhoids that I have any knowledge of, I think this is one next to the best in use. Will come next to the ligature, in safely meeting all cases where surgical treatment is indicated.

The Ligature Operation.—Now, as to the conclusion of the whole matter. You have doubtless observed by the foregoing statements that this is the operation that I prefer above all others. It is, in my opinion, the ideal operation. It has many commendable features over all other operations. It is applicable to all cases of internal hemorrhoids. It will radically cure any case. There is less danger of hemorrhage from this operation than from any other. It is an easy operation to perform. There are few sequels following this operation. Patients are confined to their beds but a few days, and soon recover from the operation. Statistics show that fewer deaths have resulted from this operation than from any other. We will now examine the evidence in this case. This is an operation that has been practiced and recommended by the leading surgeons of the last century. All the leading surgeons and specialists of this country and Europe regard it as the leading operation of the day. Erichsen said that "All external piles should be cut off and all internal piles should be tied."

Allingham says: "I do not think in the whole range of surgery there is any procedure worthy of the name of operation which can show a greater amount of success, or smaller death rate, than the ligature of internal hemorrhoids." Here

are the names of eminent surgeons who never lost a case by the ligature method: Bushe, Sir Benjamin Brodie, Syme, Ashton, Cooper, Van Buren, Bodenhamer and Allingham.

Mathews, some years ago, gave a report of one thousand cases treated by the use of the ligature, without a fatal case. But shortly after this report he lost a case from tetanus after ligating internal hemorrhoids. Moreover, he says that he has never had to operate on the same patient the second time, nor had to tie a vessel during an operation.

Gross, in his great work on surgery, says: "The operation (ligature) is as simple of execution as it is free from danger, and certain in its results."

In the fourth edition of Allingham's book on "Diseases of the Rectum," 1882, he says: "I have the good fortune not to have had one fatal result from the ligature, either in my public or private practice, which now extends to more than 1,600 operations."

The *Medical Times and Gazette* in 1865 said: "In St. Mark's Hospital the death rate from all cases in operations on internal hemorrhoids by ligation, during a space of more than forty years, is just 1 in 670. Now, hospital practice is notoriously more fatal than private practice, yet what a brilliant result has been obtained." This period includes the time from 1825 to 1865. Now, we should remember that this result was obtained before we knew anything of aseptic surgery.

Recently Allingham had extended his ligature operations to over 4,000 cases without a fatal result. The following noted surgeons all agree that the ligature is the simplest and most radical cure for internal hemorrhoids: Gross, Erichsen, Van Buren, Allingham, Sr. and Jr., Ball, Wyeth, Straus, Bull, Copeland, Bush, Cook, Sir Benjamin Brodie, Syme, Curling, Quain, Ashton, Gowland, Cooper, Gerster, Bodenhamer and a host of others.

In reference to the ligature operation, Dr. Cook says, in the paper referred to above, that: "Any operation that has held its place in surgery for a century or more, and has had the indorsement of the ablest surgeons during this time needs no defense. It is safe, easily performed and certain in its results." ....

In order to save space and avoid repetition, I have thus far refrained from giving two communications in reference to the three operations I have made most prominent in this article. The first of last January I submitted to Drs. Bacon, of Chicago, Mathews, of Louisville, and Cook, of Indianapolis, the following questions: First, Are the Whitehead's and the so-called American operations ever advisable or justifiable? Second, Is the injection method ever justifiable or advisable? Third, Can all cases of internal hemorrhoids be radically cured by the ligature method?

To these questions Dr. Cook replied by sending me a reprint of a paper which he read before the Denver (Colo.) Medical Society, Oct. 25, 1892, from which I have made several quotations.

Under date of Jan. 11, 1897, Dr. Bacon writes me, in reply to my questions, as follows: First, "I consider the Whitehead and its 'bastard,' or the American operation, as surgical curiosities, and an unnecessary mutilation of the tissues, that often results in stricture, incontinence, loss of sensation in the anal canal, and sepsis with death where the sutures give way and expose the wound to infection. Second, I am now using the carbolic acid injection in selected cases, and think it a good thing. The cases must be purely internal hemorrhoids that are not acutely inflamed or ulcerated. Third, The ligature is suitable for all cases, and will cure all cases. I have never seen a case that I could not cure by the ligature."

Feb. 1, 1897. I received a letter from Dr. Mathews, giving the following replies to my inquiries:

"First, I think not. By either operation the nerve distribution to the lower rectum and anus is materially interfered with, and the act of defection rendered difficult. Whitehead's operation requires more surgery than is necessary to cure general piles. The so-called American operation is a snare and a delusion.

"Second, This method is, or should be, obsolete. It is never justifiable or advisable.

"Third, I have operated by this method (ligature) between two and three thousand times without a single failure to cure."

As it is not within the range of this paper to discuss the different methods of performing the ligature operation, I will close by making a few brief remarks upon this part of the subject.

As every one in the profession now understands that every operation must be done aseptically, or as nearly so as possible, it is not necessary to go into details in describing the technique of this operation. Suffice it to say that I prefer the lithotomy position, and perform the operation as laid down by Mathews and Bacon, the only difference being that after the stumps of the piles have been returned in the rectum, instead of introducing a piece of gauze, as recommended by Dr. Mathews, I prefer to introduce a soft, hollow rubber tube, three-eighths inch to one-half inch in diameter, about six inches or seven inches long, wrapped with iodoform gauze, so as to make a tampon about one and one-quarter inches to one and one-half inches in diameter, as practiced by Dr. Bacon. About one or two inches of this tampon is left projecting from the rectum, which should be secured in this position by pinning to the bandage with a safety-pin. The object of this hollow tube is to insure a free outlet for the gases, while the gauze acts as an antiseptic tampon.

CARBOHYDRATE DIGESTION AND ASSIMILATION.

By Dr. A. L. Benedict, Buffalo.

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SOME facts regarding the disposition of carbohydrate food in the animal economy have been definitely settled, others remain unknown. It may not, therefore, be out of place to review the subject briefly, presenting the facts and the unsolved problems.

The most elaborate digestive organs are found,

not in man, but in herbivora, like the horse, cow and sheep. These animals normally live on food containing a relatively enormous amount of cellulose (of the same empirical formula as starch or granulose, but utterly indigestible for man, although bacteria in the intestine are able to form methane and other substances from it). By reason of the length of the intestine and the complexity of the chambers corresponding to the human stomach, the animal is still able to support life on the relatively insignificant proportion of starch and proteid contained in hay, straw, etc., and to store up food for the carnivorous animals which prey upon the herbivora. Omnivrous animals present no conspicuous anatomic differences from carnivorous animals, so far as the digestive organs are concerned, if we except the structure of the teeth and jaws, which usually afford an easy means of determining the natural food of an unknown animal. Closer examination, however, shows that the intestine of the omnivore is longer in proportion to the size of the body than that of the carnivore, and physiologic tests show a relatively greater activity of proteid digestion in the latter and of carbohydrate digestion in the former, corresponding to the well-known diversity of appetite. Under peculiar circumstances, including the domestication of the lower animals, decided changes of digestive capability are possible. Thus dogs, naturally carnivorous, are habitually fed on a diet consisting largely of bread and vegetables, and cats may be maintained on a similar diet, though with greater difficulty. Many pet dogs and not a few pet cats acquire a taste for sugar. In Iceland, it is said that the cows are largely fed on salt fish.

There are only two common omnivorous animals in this part of the world, human beings and pigs, whose range of diet, digestive secretions and digestive anatomy are almost identical, allowing for the refinement of taste and consequent enfeeblement of digestive power of the former. Thus, for physiologic study and the source of ferments, etc., the pig is generally to be preferred to other animals.

Let us now consider the subject of carbohydrate digestion in man. The standard adult, weighing 70 kilos, requires about 500 grams of carbohydrates a day, about 120 grams of proteids and about 90 grams of fats. To a certain extent an excess of one kind of food may compensate for a deficiency of another. Carbohydrates and fats are both used purely as force and heat producers, if we neglect the minor use of the latter as upholstering of the body. Theoretically fats are better fuel; practically they are not so easily dealt with by the body, so that it is not usually possible to dispense with carbohydrates, though fats may be reduced almost to zero, certainly so far that the individual is not aware that he is taking fatty food of any kind, without disturbing the health. Proteids may be changed into either carbohydrates or fats or both, within the body, as is seen conspicuously in diabetes.

Most carbohydrates are taken as starch, cooked or uncooked, as glucose, usually dextrogyrous, as cane sugar and as milk sugar. Cooked starch, properly masticated, is converted into maltose by the saliva, during the first hour of gastric digestion, that is until hydrochloric acidity reaches a considerable degree of intensity. High acidity, either organic or inorganic, and improper mastication reduce the hydrolytic action of saliva to a minimum. When we speak of high organic acidity in the stomach, however, excluding the ingestion of vinegar, etc., there is implied an alcoholic and then acetic fermentation of starches and sugar, by micro-organisms, so that not only is starch digestion inhibited, but the store of starch has already been drawn upon. Even when gastric digestion is normal, it is so seldom that insalivation has been properly accomplished that it must be conceded that salivary digestion is of very little practical importance. At any rate, after a test meal, we almost never find that starch digestion has gone farther than the disposal of the filtrate, there remaining a relatively large quantity of pultaceous starch.

The pancreatic secretion is much more energetic than the saliva—just how many times it is impossible to say; Mialhe estimated that ptyalin would convert 2,000 times its weight of starch. Roberts that amylopsin would convert 40,000 times its weight. But neither ptyalin nor amylopsin has been obtained in a pure state, though it is established that amylopsin is much more powerful than ptyalin, and that pancreatic juice is richer in the former than saliva in the latter. Whatever raw starch is eaten, and the majority of cooked starch which has escaped the action of ptyalin, is converted by the pancreas, but only into maltose and the merest traces of glucose.

Maltose is isomeric or polymeric with cane sugar and milk sugar, and all of these must be changed to glucose before they can form fuel in the blood. Maltose is changed into dextrose by a ferment of one, or possibly both, kinds of intestinal glands, and is then absorbed, mainly by capillaries tributary to the portal vein, slightly by the lacteals. Cane sugar is converted by the same ferment, invertin, into its components, dextrose and levulose. The fact that these two sugars, having the formula $C_{12}H_{22}O_{11}$ are changed into their corresponding monosaccharides by the same ferment would lead us to suppose that milk sugar, of the same empiric formula as cane sugar, one of the natural foods of the infant, should also be converted into its components, dextrose and galactose. This, however, is not fully established. Voit senior, Daste, Pregl, Mendel have performed experiments on animals which seem to show that the intestinal juice has no digestive action on milk sugar. Vautz, Vogel, Rohmann, Lappe, Fischer and Niegel have performed various experiments which show, on the other hand, that the mucous membrane and its extracts, whether taken from the child or from the animal, are able to convert milk sugar into its monosaccharides, unless some circumstance, as previous drying, prevents. Thus it seems that the "selective action of epithelial cells" is the main factor in the digestion of milk sugar, while the conversion of the other polysaccharides is due to an unorganized but organic ferment.

Following the absorption of glucose (either dextrogyrous or levogyrous) from the intestine, it is

taken to the liver, temporarily stored as glycogen, and then converted back again into dextrose—and apparently dextrose only, not levulose—as the body needs it. Thus the glycogenic function of the liver renders that organ a sort of tender to an engine. Glycogen is also stored in muscles and, to a less extent, in other organs against the need of additional fuel for some particularly heavy strain.

One point in the study of carbohydrate metabolism is of very practical importance as it prevents a false conception of the pathology of diabetes, though by no means clearing up all the intricacies of that disease—or those diseases? Although, as a figure of speech we may say that the body burns carbohydrates and forms CO_2 and H_2O, like an engine, this combustion of glucose takes place only under the action of a glycolytic ferment secreted by the pancreas and taken up by the blood from the pancreatic cells, just as the blood takes up something from the thyroid which its cells manufacture. Thus, so far as the formation of this combustion—causing ferment is concerned, the pancreas is a ductless gland.

Diabetes was formerly supposed to be due to bad stoking on the part of the liver. It was argued that too much glucose slipped through into the blood and, therefore, too much was eliminated. This theory had to be abandoned for the very practical reasons that liver diseases, which are very frequent, are scarcely ever accompanied with either diabetes or glycosuria, while conversely, when diabetes does occur, some other organs may be found diseased, but the liver is no more likely to be affected than in non-diabetics. It is now quite well established that the excess of sugar is due, not to the entrance of too much from the liver, but to the failure of oxidation on account of the lack of the glycolytic ferment. It is also a well-established clinical fact that the admission of a minute quantity of carbohydrates into the body may cause the appearance of much greater quantities in the urine. Just why there is this stimulation of carbohydrate formation, doubtless from proteids, is not yet satisfactorily explained. Again, what few physicians know or realize if they know, the main factor in diabetes, so far as prognosis is concerned, is the waste of nitrogenous matter, as indicated by the increase of urea in the urine. It is this factor that distinguishes the conditions that may truly be called diabetes from those that are merely glycosurias.

Recent investigations of Fritz Voit show that considerable quantities of any of the monosaccharides, dextrose, levulose and galactose, may be injected into the human circulation without causing more than a trace of sugar in the urine. Both the former produce glycogen; it is not settled whether galactose does or not. As is well-known, levulose may be oxidized by diabetics when dextrose or glucose-producing starches can not be safely administered. I infer from Voit's report, although he does not so state explicitly, that when either levulose or galactose is injected in sufficient quantity, usually about fifty grams, to cause glycosuria, the excreted sugar is the same as that injected, there having been no change into dextrose. Practically all of either cane sugar or milk sugar is eliminated unchanged; maltose, however, being a double or multiple dextrose, is completely oxidized unless injected in large quantities. Of the soluble starches and dextrins, which are really sugars, though not usually thought of in that connection, Voit finds that when injected in amounts of about ten grams, from a tenth to a third of this amount is eliminated as achroodextrin. Glycogen, however, being a starch normal to the economy, is completely oxidized when injected in a ten gram dose.

These investigations of Voit's, though by no means as extensive as is necessary to warrant the drawing of quantitative inferences, clear up several little puzzles that must have occurred to many of us. For example, it is well-known that after a mixed test-meal, sugar disappears from the filtrate about as quickly as formed, so that, an hour after ingestion, the filtrate of the stomach contents should be sugar free. That is to say, maltose must be absorbed from the stomach and pass into the circulation, whereas most physiologies state that it must be inverted in the intestine before it is adapted to the formation of glycogen, from which, in turn, dextrose may be formed as needed by the blood. Voit states that it is undecided whether maltose is converted into glycogen or not. At any rate, the blood contains a substance that can convert considerable quantities of maltose into dextrose, so that its ultimate fate is the same whether it merely passes through the liver or is affected by the glycogenic ferment.

Cane sugar has come to be an artificial food of much value, and it is habitually ingested by many persons in relatively enormous quantities. It really seems, in view of the individual variations in appetite, that certain persons have good and certain others poor digestive power, so far as starch is concerned. The appetite for carbohydrates is practically universal and it seems to be quite constant, except as obviously influenced by the size of the person and his demand for force and heat producers, according to physical exercise and exposure to cold. Persons fond of potatoes and other vegetables rich in starch, of breadstuffs, etc., do not usually have much craving for sweets, and the opposite is also true. The demand for sweets is not merely a matter of palatability or of indulgence of appetite. Many persons who may rightly be called gourmands do not care for sweets, and one frequently finds children who, with no factor of compulsion, care very little for candy. The writer can vouch for the reality of an appetite for sugar just as urgent as for any other kind of food and, apparently, just as healthy. The difficulty of obtaining accurate statistics otherwise may excuse a further personal statement. The writer consumes in a month from seven to ten pounds of cane sugar and at least three pounds of candy, presumably mostly cane-sugar. This would represent a consumption of sugar of about 200 grams daily, less an unknown quantity allowed for water of crystallization. At any rate, over a third of the total carbohydrates requisite is taken as cane sugar.

Since soluble substances are commonly absorbed from the stomach, it is incontestable that part of the cane sugar taken as food must enter

the circulation before the invert ferment of the intestine can have had a chance to act. Voit calls attention to the necessity of prolonged boiling of the urine, preferably with hydrochloric acid, before testing for sugar, if its source is cane sugar. The purpose is to convert cane sugar into glucose, as the former does not reduce copper, and as there is no test which is both accurate and reliable for cane sugar. It is to be hoped that some chemist will publish a test that may be used clinically for the direct determination of cane sugar in the urine. After the ingestion of considerable quantities of cane sugar, the urine may or may not reduce a copper solution. If it does, it indicates that sufficient glucose has been formed by digestion to overtax the normal glycolytic powers of the individual. If there is no reduction, it still does not necessarily insure the absence of cane sugar from the urine. After prolonged boiling, the reduction may be obtained, indicating that there has been a saccharosuria. Probably this is not a harmful occurrence. The writer has had no opportunity of testing for cane sugar in the urine, except a few times in the case of his own excretion. These experiments have always been negative, even after the ingestion of from 200 to 400 grams of cane sugar within a few hours. The writer has demonstrated with his own saliva a very faint power of converting cane-sugar, previously tested in vain for reducing properties, into either maltose or glucose.

In experiments like those of Voit an interesting and quantitatively insoluble problem arises. As various substances are carried in the circulation, or as the circulation carries traces of active chemicals to them, slight alterations are affected that would otherwise be inexplicable. For instance, any substance in the general circulation must pass occasionally through the portal system. Perhaps the maltose split in the blood into dextrose molecules may thus be stored as glycogen in the liver. Or, again, cane-sugar taken into the circulation may be partly inverted in the intestinal wall. Perhaps, too, the reason that Voit found that the dextrin group were eliminated in the urine in very small proportions as compared with the disaccharides (cane sugar, etc.), is that these substances in coursing through the vessels pass through many glands and parts which are active in their digestion. The glycogenic function, as stated previously, is well-known to be distributed in perfectly appreciable degree throughout the body. Per contra, we must ask ourselves whether a substance in the capillaries of a gland is influenced by the secretion poured into the ducts of the gland. In the same general category is to be considered the possibility of true digestion of ligatures by minute quantities of pepsin circulating in the blood. Normally, too, there must be some similar disposition of the raw peptones and sugars that are absorbed by the lymphatics, and thus escape the secondary digestion that they ought to encounter in the iver, before entering the general circulation.

Morphine can be detected in the urine if the daily use exceeds ten centigrams.

HOSPITAL REPORTS.

AN EXTENDED TRACHEOTOMY TUBE.

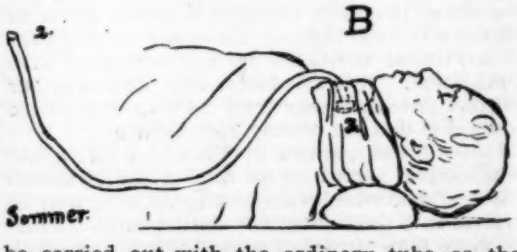
By H. Otto Sommer, M. D.,
Assistant House Surgeon, Metropolitan Hospital, New York.

IN calling the attention of the profession to the device illustrated by the accompanying cuts, I feel that I owe an apology, for, while the idea is original with me, it is so simple that it would surprise me had it not occurred to someone else ere this. I have therefore consulted a prominent surgeon of this city to learn whether the idea was antiquated; on his statement that the device had some claims to novelty, I felt encouraged in my intention to submit it.

At a recent tracheotomy I was considerably annoyed at the fact that, after the insertion of the

tube, the patient, in coming out of anaesthesia, showed signs of vomiting. The liability of vomited matter entering the depressed opening of the canula (1) seemed to me very great, and threatened complications alarming. I therefore conceived the idea of an additional tube (F), that when attached to the inserted canula should project sufficiently from the external canular opening to avoid dangerous proximity at its external orifice; (2) to the vomited particles.

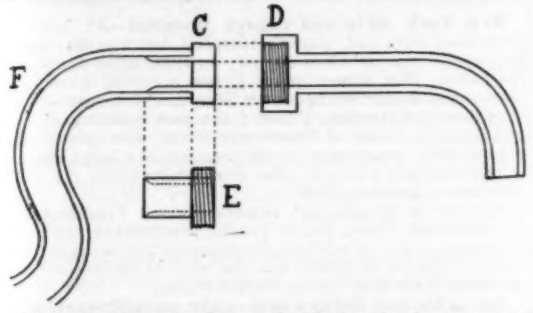
Another factor which made me cling to my idea is the importance of aseptic precautions in this region, to avoid the well-known septic complications. Precautions which consist in the application of abundant dressings about the neck can not well



be carried out with the ordinary tube, as they either entirely occlude, or at least interfere with, the proper admission of air into the orifice of the common tracheotomy tube, the external opening (1) of which lies practically on the surface of the neck.

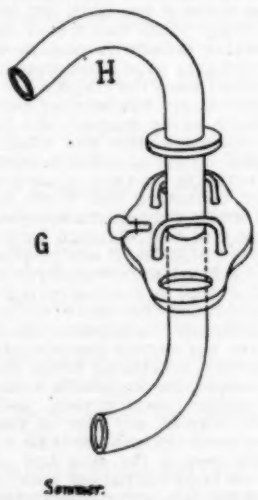
To accomplish the desirable extension I suggested the addition of a flexible tube (F), preferably of rubber, and of a length determined by the exigencies of the occasion, such as the extensiveness of the dressings, always bearing in mind,

however, that the essential thing is the removal of the tubal orifice (2), distal to the patient, to a sufficient distance from and above the level of the patient's mouth. This can be accomplished by employing a screw tip (C) at the end of the flexible tube (F), with a receiving thread (D) on the inner tracheotomy tube, or vice versa, these details to be largely determined by the instrument maker.



After the opening into the trachea has been made and the outer tracheal tube inserted, the inner tube to which the extension has already been fastened is to be inserted and dressings applied, though it is perhaps better while the patient is still under the eyes of the operator to insert the inner tube without the extension (F), until the patient has ceased to cough up the usual secretions immediately consequent on or subsequent to, the introduction of the tube, and then apply the extension.

Of course, except in case of very abundant dressings (Fig. B), where I believe the extension to be indispensable, *per se*, my presumption is that the gauze employed by some across the external tubal orifice is inadequate to exclude foreign particles, especially of liquid vomit.



Sommer.

Figure A represents a patient in the recumbent dorsal position, and illustrates the possibilities of vomiting into the tubal orifice (1) of the commonly employed tube, together with the impossibility of applying extensive aseptic dressings without occluding the orifice (1).

Figure B represents a patient with the extended tube *in situ*, and extensive dressings applied, the broken lines (3) showing the necessity of an extended tube, and (2) the distal orifice of the extension removed from the dangers of proximity to the patient's mouth.

Figure C is the screw tip of the flexible extension (F), as seen in longitudinal section.

Figure D is the receiving thread of the inner tube, seen in longitudinal section, showing expanded flange to avoid a diminution in the caliber of the orifice of the inner tube.

Figure E shows the screw tip viewed externally, and without the extension tube F.

Figure G is a modification of the whole apparatus, the inner tube being only partially inserted into the sheathing tube, the essential difference between this instrument and the foregoing being that instead of the flexible extension F the inner tube is merely prolonged as one piece, the prolongation H being curved downward, or a similar, but detachable, metal prolongation employed.

Messrs. Geo. Tiemann & Co., 107 Park Row, New York City, are prepared to furnish the instrument as devised.

March 14, 1898.

HERNIA OF DIAPHRAGM.

SERVICE OF DR. A. L. ROOT, VISITING PHYSICIAN.

(Reported by Dr. A. C. Wallin, House Physician, Metropolitan Hospital.)

On Dec. 13th, 1897, there was admitted to the Metropolitan Hospital a male patient, who was single, forty-four years of age, born in Ireland, and by occupation a laborer.

His family history was negative, as his mental condition was such that it was impossible to obtain a reliable history from him. He had been drinking hard for some time, and was very nervous and delirious. He bored his head into the pillow as one would in meningitis. Although he knew that he was very low and going to die, his desire to live was shown by his asking t. have the vomiting stopped; his eyes were staring, and his face had an agonized expression. There was persistent vomiting and retching; upon taking food or drink he would complain of severe pain in the left side.

He was very thirsty and troubled with shortness of breath. Upon listening to the heart sounds they were found to be muffled and indistinct, especially the apex beat, and it was also found that there was a mitral murmur.

The pulse was found to be fast and weak. Upon percussion it was found that the area of liver dullness was increased. so that there was a peculiar hollow note over the greater part of the left half of the chest, and that the normal stomach tymphany was absent.

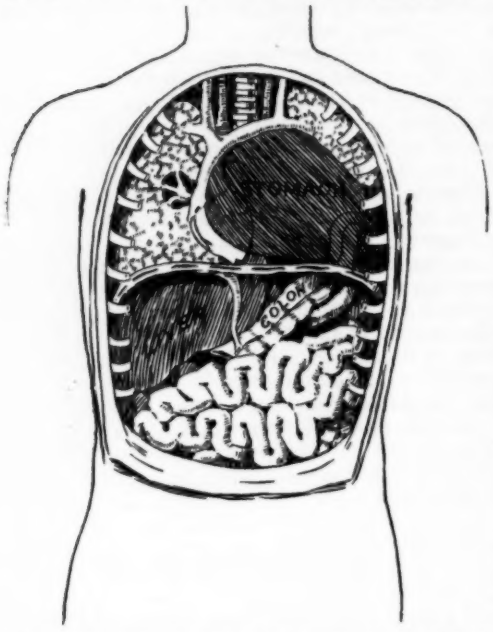
No history of an injury was obtained, nor was there any symptoms or signs of strangulation. This history shows some of the symptoms peculiar to the hernia of the diaphragm, which is mentioned in the "American Text-Book of Surgery."

Was put on a mixture of tr. of capsicum, ℥ i; tr. nux vom., ʒ i; tr. of china, ʒ i; of which was given ♏ v every two hours. and was also put on a milk diet, but became worse daily. So was given ipecac 3x; one tablet being given every two hours. He kept growing worse until Dec. 19th, 1897, when he died.

The autopsy revealed the following conditions: On opening the thorax the stomach was found in the left pleural cavity, and was much distended with gas. It had passed up through an opening in the posterior part of the left leaf of the diaphragm, through the peritoneum, pushing the lung up and compressing it, at the same time forcing the heart over to the right side. The pyloric end was turned around to the left in a half circle, and passed together with the splenic flexure of the colon and the mesen-

tery up through the opening in the diaphragm, while the cardiac end remained stationary.

The opening was about the size of a silver dollar, and did not appear to be of a recent date. The dome of the diaphragm was flattened, as is shown in cut.



The hernia seemed to be of the second-class, as classified by Dennis. The mesentery was slightly adherent to the chest wall. The mucous membrane of the stomach was found to be much inflamed and along the border of the lower curvature there was an ulcerated condition.

The left lung, which weighed 14 ozs was completely collapsed and adherent to the chest wall, and about the size of two fists. The right lung weighed 23 ozs., was congested and exuded, on pressure, a bloody fluid.

The heart was normal in weight, was pressed to the right and showed a thickening of the mitral valve.

The liver was cirrhotic. Gall bladder contained four stones, weighing 12 grs. each.

The kidneys were in the chonic condition of parenchymatous nephritis. The spleen was soft and congested. The brain, which weighed 48 ozs., showed a sub-dural hemorrhage, and congestion of membrane.

New York Skin and Cancer Hospital—At last the New York Skin and Cancer Hospital has a proper building, and there is in this country an Institution worthy of the name. For fifteen years it has occupied a dwelling house, 243 East Thirty-fourth Street, which was altered over, but on Saturday, March 5, the new building on Second Avenue, corner of Nineteenth Street, was opened with appropriate ceremonies in the presence of a large number of representative people, who completely filled the large out-patient waiting room.

After a few introductory remarks by the President, Mr. J. Cleveland Cady, Dr. A. Jacobi, president of the medical board, made an address, dwelling on the necessity and value of special hospitals, and the work of this the only institution of the kind in the United States.

Dr. L. Duncan Bulkley then made an address, reviewing briefly the origin and early history of the hospital, and its work during the fifteen years of its existence. He called attention to the fact that the old city of New York had grown at the rate of 50,000 inhabitants a year for the past ten years, and suggested that the hospital accommodations had not kept pace with the growth of the city. He mentioned that most of the special departments of medicine had special hospitals, but that until the establishment of the New York Skin and Cancer Hospital there had been none of the kind in this city or country. He mentioned the large provision made for skin diseases in Paris, Vienna, Berlin, and all the cities of Europe—Great Britain having twelve special hospitals of this kind.

Beginning in a very small way, with no endowment or pledged support, the hospital had received $375.000 during the past fifteen years, of which $75.000 had come from board of patients and sale of drugs to out-patients. Of the $300,000 contributed from outside, the hospital now had $25,000 invested for five endowed free beds, and had paid $150,000 for the new building, which was free of debt. But as it had no permanent or definite income, he earnestly plead for gifts and moral support of those present.

During the fifteen years the hospital had treated 25,031 patients, of which 22,159 had been out-patients, who had made 118,154 visits to the hospital, and for whom 132,263 prescriptions had been written and filled. The 2,872 in-patients had spent 165,077 days in the hospital.

He called attention to the value of the hospital as an educational center, instancing that thirty young men had been interested, and had acquired a knowledge of these diseases second only to that obtained by prolonged study abroad. He also stated that it was proposed to have clinical lectures in the hospital, free to physicians, which were to be further illustrated by a collection of Paris models and colored plates which had been loaned to the institution.

The new building, on the corner of Second Avenue and Nineteenth Street, is a modern fire-proof structure of four stories and basement, containing about sixty beds for patients; of these seven are in private rooms. On the top floor there is a modern operating room, well equipped, the Worden ward for children, and most of the private rooms. On the next two floors are four wards for male and female patients with diseases of the skin and cancer. On the ground floor is the large out-patient room, with consulting rooms, pathological laboratory, drug room, office, reception room, etc. In the basement there is a complete set of baths, including Turkish, Russian, needle and plunge, besides the kitchen, laundry, dining rooms, etc. The lighting, heating and ventilation are of the most approved kind.

We have received from the hand of the accomplished Chairman of the Section on Materia Medica and Therapeutics, Dr. J. V. Shoemaker, of Philadelphia, the elaborate programme for the Denver meeting in June. It certainly portends an interesting session, and if we had space we would print the list of papers in full. The meeting will certainly be worth attending, even if it is a long way off.

The Medical Times

A MONTHLY JOURNAL

OF

MEDICINE, SURGERY, AND COLLATERAL SCIENCES.

EDITORS:

EGBERT GUERNSEY, M. D. ALFRED KIMBALL HILLS, M. D

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Wherever there is failure there is some giddiness, some superstition about luck, some step omitted, which nature never pardons.

—CONSIDERATIONS BY THE WAY.

SCIENCE VERSUS SCIENCE.

THE great battles of progress in this world are conceived and every step thought out and prepared in the study, in the laboratory and in the workshop, where the laws of physics are closely studied, and the results, after the most careful, long continued and sometimes the most costly experiments, noted, combined and utilized. The status of war within the past few years has changed from that of brute force to that in which the forces of nature are utilized to the utmost of human ingenuity and thought, in defense and destruction. The dynamite, with its tremendous explosive power, has taken the place, to a certain extent, on sea and land of the less powerful powder of the past, and even that with new combinations rendered smokeless, no longer concealing the movements of the contest. The little monitor, constructed through the ingenuity of Ericsson, in our civil war, as it steamed up the bay, its armed turret looking like a cheese box, rising just above the water, in a few moments deciding the contest between the Confederate and the Union forces, struck the deathblow to the navies of the world and compelled a reorganization and reconstruction. In that reorganization the ingenuity of inventive minds, in the study, in the laboratory and in the workshop, backed by unlimited resources, has been taxed to its greatest power in the construction of armed ships, and in engines of destruction, whose tremendous power was calculated to beat down any defense however strong. Not this alone, but the little torpedo boat, swiftly gliding through the water, so small as scarcely to be an object of resistance, planting its torpedoes, charged with dynamite, in the channel, or sending them against the side of a vessel, discharging them at any moment with their electric connection, places in strong contrast naval battles of the past with those of the present time. Can there be a moment's doubt but what fifty years ago complications like the present between Spain and the United States would have long since passed the domain of diplomacy to a bloody contest upon the ocean? The science of war, as now perfected, in all its minute details, in which the forces of nature are placed in harness and guided by skilled hands and clear intellects, and in all its outlook of destructive carnage and death, has naturally led to a less passionate consideration of the subject, in which every effect will be made, before lighting the torch of war, to obtain justice and vindicate nations' honor. If that fails, then it is quite time for what every one will accept without one dissenting voice, an appeal to arms. In that contest the science of saving human life, of relieving suffering, as practiced by the physician and the nurse, will stand face to face with the science of destruction, as never seen before. It is an interesting fact that some of the greatest advances ever made in our profession were the outgrowth of conditions met in our civil war. The havoc of the battle field and the diseases engendered in the malaria of swamps, or long marches, in exposure to the elements, in exhaustion, in food and drink, often impure, sometimes only slightly nutritious and scanty in quantity, taxed the ingenuity and skill of educated, thinking men to the utmost and brought out new suggestions and practical ideas which have widened the domain of medical science in all its departments. Two great elements are always at work to reduce the strength of an army—the lives which go out on the battlefield and the mangled bodies carried to the hospital; but the greater number than from either of the above causes is the vast number who drop from the ranks from exposure and from the diseases incident to the moving and feeding large bodies of men. The military hospital thus became a great school to the surgeon and physician, when brought face to face with death in great emergencies. Steps were taken which, if unsuccessful, simply anticipated the fatal end for a short time only, but if successful established a principle in surgery which, followed out, might lead, and did often lead in private practice, to the most brilliant results. If we are not mistaken it was the suggestion of Marion Sims, in the Italian war, which ended in uniting Italy into one kingdom, to open the abdomen

freely in case of intestinal wounds, sewing up the acerations, and excising even portions of the intestines.

To the surgeon the Army Medical Museum at Washington is one of the most interesting places he can visit. He will see in the vast array of exhibits how carefully every weapon of death has been studied by scientific minds in the evolution and development of military surgery, and that, while on one side there has been a constant study to make battle more deadly and cruel, on the other side each step has been met by the physician to make it more human, and the thought and ingenuity thus awakened is utilized in the daily rounds of professional work.

In case of a war with Spain the rapidity of action and the increased carrying power of small arms would vastly increase the number of wounds, and the peculiar structure of the bullets, making an opening in the blood vessels least capable of being closed by nature, would increase the fatality from bleeding to death on the field, but the wounded once placed in the hospital their chances for recovery so far as surgical skill is concerned would be infinitely superior to that of any previous war. As we write, with this terrible war cloud hanging over us, a thought occurs to us which may or may not prove prophetic. The English-speaking people, with their vast possessions in every part of the world, the missionaries of progress and of freedom, double their number every forty-one years, a number reached by no other nation in less than one hundred years. With this great vitality and yearly increase in strength, as shown in every department of life, may not the time come, at no distant day, when the English-speaking people in Europe, Asia, Africa, and America, and on the Islands of the Sea, will form a confederacy so vast in extent, so all powerful in influence, that it will control the destinies of the world, compelling the settlement of questions between individual States by arbitration instead of war.

SAVE THE BABIES.

THE sustenance of an infant in the early months of its life, which fails to obtain the necessary nutriment from its mother's breast, often taxes the skill of the physician and the patience of the mother to the utmost. It is often hard to find a substitute for the mother's milk. Of course that of the wet nurse is the best, but even that, however carefully selected, often fails in the desired result, and one preparation after another of the many excellent substitutes now offered to the public are tried with such scant success that the digestive organs become so weakened as to be almost incapable of reaction. There is no class of cases where an accurate knowledge of the psysiology and chemistry of digestion is so important as in the early life of the infant, and where the food at first should be prescribed with such a thorough knowledge of its adaptability of the peculiar needs and conditions of the stomach. There is a constant necessity of adding to the tissues of the body besides keeping up the equilibrium, and it is very evident that inanition cannot be tolerated for any length of time. The child must be fed from the first with food it can digest to a certain extent, or its vitality will soon be exhausted. From the very first a distinct diastatic effect is produced by the oral secretion, which is exerted by the action of the mouth in nursing. The infant at first should be fed every two hours, partly for the reason that the effect produced by the saliva in the stomach only lasts from one-half to two hours, increasing of course with increased age. The diastatic power of the pancreas begins with the fourth week only, and remain feeble to the end of the first year. The first acid in the stomach while digestion is going on is mostly lactic acid. Hydrochloric acid is secreted later, and as soon as it has begun its action starch will no longer be changed into grape sugar inside the stomach. There is a diminution or absence of saliva in the very young while suffering from diarrhoea or debility. Thus children when very young ought to have but little starchy food, and when sick none at all. As an illustration of the effect of lactic acid in the digestion of an infant, we found in the early life of an infant the mother's milk, very copious and flowing freely almost without effort, was not only undigested but poisonous, producing severe pains, vomiting and excessive watery diarrhoea. Milk of any other kind was apparently undigested. It occurred to us that there was a lack of lactic acid in the saliva, and it was supplied to milk, just from the cow, properly diluted. The result was immediate; every unpleasant symptom vanishing as if by magic. By way of experiment a return, but for one meal, to the mother or ordinary milk, brought back all the old symptoms. The litmus paper is of as much importance in deciding the nutrition of infants as the thermometer the temperature of the blood in fever. If we should rely more upon the character of the discharges tested by the litmus paper, we should be more likely to relieve by adapting the food to the condition of the stomach than by the use of drugs seemingly indicated by symptoms. The two classes of food which are of the most importance to us in infant feeding are the carbohydrates,

or starchy food, and the proteid or albuminous food. If the litmus paper tested in the evacuations shows a very marked acidity, we must discontinue carbohydrates, and if on the contrary the reaction is very alkaline, the albuminous food must be discontinued. In all cases of infantile diarrhoea it is advisable first to clear out the intestinal canal with some mild laxative, and then give the kind of food indicated, with medication if necessary.

THE ETIOLOGY OF PROGRESSIVE PARALYSIS.

"A MOST brilliant address" on the above subject is mentioned in the *Medico-Surgical Bulletin* as having been delivered at the Moscow International Congress by the famous neuropathologist, Krafft-Ebbing. It was a masterly analysis of the condition of modern civilized life. He pointed out that the modern man has paid dearly for the great progress in trade, manufactures, agriculture and for the innumerable inventions. The intensity of the modern life is still more enhanced by the political activity, the great diversity of opinions, the struggle for existence, not only among individuals, but among classes and nations; the nervous system is thus in a condition of constant excitation, increased by the abuse of the various nervines, as tobacco, tea, coffee, alcohol. The physical degeneration of the great masses of people, segregated in the large manufacturing centers, is the true reflection of their miserable conditions of life, and appears as rachitis, scrofulosis, tuberculosis, etc. The female is not surrounded by any more favorable circumstances. Such conditions form certainly a very fertile soil for the development of various nervous disorders, among which progressive paralysis occupies a pre-eminent place. The ever-spreading curse of syphilis is probably the most important etiological factor in the causation of the disease; he would, however, not commit himself to considering syphilis as a *sine qua non* in the production of progressive paralysis. If he were to state the etological factors of the disease he would say: "Civilization and Syphilization."

A SURGICAL SIN AND ITS PUNISHMENT.

DR. EMORY LANPHEAR, in the *American Journal of Surgery and Gynecology*, warns against "Gross Misrepresentation, or the Deception of Silence," as to danger attending a capital operation, and tells the following story: A St. Louis surgeon of international reputation had as a patient, one of the wealthiest women in the city. Disease, ovaritis chronica. She was doing well under chronic treatment and would have remained a semi-invalid to the end of her days, but was ambitious to be well, as became a leader of society. The doctor was likewise ambitious—to be known as an abdominal surgeon, and so he tempted the woman with hopes of health. He said: "Removal of the ovaries is a very simple little operation; some morning I'll bring my table, my nurse and my assistants and we'll take out these little troublesome things and make you well." "And is there no danger, doctor?" "None in the least, madam." And she consented. Oophorectomy was performed. Next day the doctor left town for twenty-four hours. Patient developed peritonitis, called another surgeon, and was told next morning she had but a few hours to live. She prepared a surprise party for her physician. When he returned to town he hastened to her home and there found some twenty or thirty ladies, the most promising and influential in his practice, gathered at the bedside. The lady, reaching out her hand, seized his in a grasp not to be shaken off. Calmly, amid profound silence, she spoke: "Dr. ——, I was a happy woman, an invalid to be sure, but happy in the love of relatives and friends, surrounded by all the comforts and luxuries that wealth can provide, not suffering much, though wanting health. I could have lived for many years in the peace and happiness of my family. But in an evil hour you came and sang the siren's song. You told me there was no danger. Now I have peritonitis—am dying by your hands. Do you deserve further confidence or success? No. I have called your friends to hear my last words to you. With a dying woman's breath I curse you. Go!" As she flung his hand from her he went—and his business went also. Need more be said?

EARTH BURIAL AND CREMATION.

AT the recent annual meeting of the Church of England Burial Reform Association, Dr. Poore, in his paper on earth-to-earth burial, laid stress upon the fact that the earth was a source of life in this world, and the necessary recipient of all dead organic matter. With due regard to scientific principles, it was quite possible to carry out the rite of burial, not only without harm, but with a certain amount of benefit to the living. If bodies were buried in the upper layers of the soil, and in contact with it, a complete disappearance of the organic matter was effected in about twelve months. A cemetery, scientifically used and planted, formed an open space which was invaluable to crowded centers of population, and, by affording nourishment to trees and other green-

leaved plants, had the power of freshening the air. The simplification of funerals and scientific burial, so that the ground might be used a second time after a certain interval, were both important steps in the advance of sanitation, which had been one of the best characteristics of the Victorian era.

With respect to cremation, the author of a recent article on the subject, in the *Cincinnati Lancet-Clinic*, concludes that arguments urged in favor of this practice are not sufficient. As to the prevention of contagion, he holds that the necessity of carrying the infected body long distances to the crematory is often more dangerous than the immediate embalming at the residence, believing that the latter is thoroughly efficient to destroy germs.

MATRIMONY AND THE ROENTGEN-RAYS.

THE Roentgen-rays are every day finding new applications, but not the least surprising (says the Paris correspondent of one of our contemporaries) is the very recent matter-of-fact suggestion of a stolid, prosaic German doctor as to their availability in the selection of a bride. The end of marriage being the reproduction of the species, any hindrances to this end which exist, and which may be discovered without subjecting the persons concerned to any indignity, he argues, should be found out before marriage. Any insuperable pelvic contraction may thus be easily detected, and he suggests that *fiancés* should exchange not only ordinary, but X-ray photographs, when the preliminary steps to matrimony are being taken. This method, he considers, will be of invaluable service to members of royal and aristocratic families to whom the birth of an heir is all important, and the skiagraph of his beloved will be one of the things that a princeling will be supposed to possess before seriously commencing negotiations for her hand.

IS THERE SUCH A THING AS RABIES?

IN Philadelphia recently there died three persons who during life had shown many symptoms of having suffered from hydrophobia, and those who had attended them were under the impression that if such a thing existed as rabies this was the cause of their death.

Case I. was a lad sixteen years of age who had been bitten by a dog during September last and died six weeks afterward. The symptoms had been, frothing at the mouth, an elevation of the temperature—three days before death occurred, 100 degrees; next day, 101 degrees, and the day of death, 103 degrees

Case II. History not reported.

Case III. A man was bitten by a dog in December last and died in February of this year. The symptoms during life were about the same as that of Case I., such as frothing at the mouth at the sight of liquids, together with spasms and convulsions.

All three cases were carefully examined, post-mortem, by bacteriologists and pathologists.

Dr. A. C. Abbott secured specimens of the spinal cords in both Case I. and Case II., and after being properly prepared four rabbits were inoculated, two from each specimen. Of these one rabbit died the next day, it is supposed from the effects of the operation, while the other one lived twenty-one days without developing any symptoms of rabies, finally dying of congestion of the brain. The other two rabbits made an uninterrupted recovery from the operation, and without any symptoms of hydrophobia. Dr. Henry Cattell, one of the coroner's physicians, held a post-mortem examination on Case I., and reported death having been due to congestion of the brain.

Dr. Morton, also a coroner's physician, after examining Cases I. and II., post-mortem, stated death to have been due to uremia.

Coroner Atbridge asserted that during the seventeen years he had been connected with this office there had never been a true case of hydrophobia reported.

DOCTOR SCHENCK MAKES ANOTHER SON TO ORDER.

ACCORDING to a recent report the Countess of Warwick gave birth to a son who will hereafter render thanks to the genius of Doctor Schenck, of Vienna. It is said that previous to consulting this celebrated physician, the lady had been taking active exercise, such as horseback riding, hunting, etc., without securing the proper amount of rest and nourishment which it is presumed would determine the issue of a female child.

After her consultation, however, this mode of living was entirely changed, and a physician was in constant attendance, seeing that only a moderate amount of exercise was taken, but above all that highly nutritious food was given to increase the number of normal red cells from 4,000,000 per cubic millimeter to 5,000,000, which according to this theory will determine that a child of the male sex should be born.

THE feeling of restlessness, discontent and even dissatisfaction in the profession, not alone in our own country, is reaching a point where radical changes must take place from force of circumstances.

Never in the history of organized medicine was there such need of medical union as at present, when there is so much to be done.

Professional unity can only come when there is harmony based upon a spirit of brotherhood, which begets it.

There is a growing feeling that the profession itself is to blame for the condition in which we find ourselves.

The so-called "schools" in medicine have vilified and abused each other, to the disgust of the public and to their own degradation. The movement, started some years since to unify the profession, was annihilated by the passage of a resolution which required candidates to *declare abnegation of sectarian principles and practice*, of which there was no possible need. It was sufficient that a candidate would agree to abandon sectarian designation!

Who can define sectarian principles and practice? But even if a definition can be formulated, the practitioner should be at liberty to select that which is good even from such a source. Personal liberty of opinion and action must not be abridged, and no man or society of men, have a right to attempt to bridle free thought and honest conviction.

Who cares what a man thinks or does so long as he is honest and does not designate himself as anything but a physician? Many beside ourselves think the time is ripe for the burying of sectarianism in medicine, and they are found in all the "schools." There is a strong movement headed by able men in the American Medical Association in the direction indicated, and we sincerely hope that something will be accomplished to this end, at the forthcoming meeting in June. It would be a noble effort for this representative organization to resolve that a candidate, otherwise qualified, may become a member of this body, providing that he does not designate himself as anything but a physician, and the promise of the candidate should be sufficient guarantee that he will faithfully keep the compact.

There must be mutual concession on both sides, and the advance should be made by the greater body first. We have repeatedly said that there should be dishonor to none, and unless it can be done honorably, we will have nothing to do with it.

Selfishness is an important factor and disturbing element. In the sectarian schools it is the specialist who uses the organization for the purpose of building up his practice, in many instances pretending to believe in dogmas with which really he has no sympathy whatever, that helps to perpetuate the schism. If there were more honesty there would be less sectarianism. Some wink at the dogmas, do not pretend to believe in them or practice in accordance therewith, but still continue the designation, all of which is dishonorable and degrading.

The sectarians do not agree among themselves as to practice any more than those who are not sectarian, and the majority practice as they think best regardless of theories, and it seems to us that it would be more honest to drop the designation under such circumstances. Many are timid for one reason or another, fearing the results of radical change, as if they were not able to stand on their own bottoms without the prop of sectarian designation. We have never yet explained the position of the physician who uses no other designation, to a lay person, without being able to satisfy such individual that it is the only suitable view to take. It is the opinion of an able judge of our Supreme Court that the sectarian physician has no right to practice anything else but the method which he claims to adhere to.

When a practitioner claims only to be a physician, he has a right to practice what he considers best in the particular case, while the sectarian must confine his work to the tenets of his own school. According to Judge Barrett, the sectarian is not supposed to know all there is in medicine plus the dogmas of his particular school, but he must confine his practice to accord with the theory which he claims to adhere to.

Practically, sectarianism in medicine exists to a very limited extent, and should be confined to the mere handful who adhere strictly to dogma, while the balance who already practice rational medicine should be absorbed by the body to which they naturally belong.

Members of the American Medical Association, you have a great responsibility; will you accept it? We call upon the progressive liberal men of this great Association to see to it that the subject is not neglected.

WE call special attention to the abstract of a paper read by Dr. Satterthwait before the New York County Medical Society, and the discussion which followed, upon the Nauheim treatment of chronic heart disease and obesity, as practiced by the Schott brothers at Nauheim, where the baths from the saline effervescing springs are an imporant factor in the treatment. The work of the Schott brothers has met with such great success as to attract the attention, in a very marked degree, of the medical profession throughout the world in the relief of troubles which have hitherto proved so intractable. The skill of our New York chemists has enabled them to simulate by the proper combination of ele-

ments, the Nauheim baths, so that the work in all its minute details can be carried out at home with precisely the same results as at Nauheim.

Personal interest will induce us to watch the result of this treatment, as we are trying it upon our own person, and shall at a later day report in the TIMES the precise results obtained.

THERE are eighteen vacancies in the lower grade of the medical corps in the navy, and the Surgeon General finds, on the eve of what may be a war in which the navy will be the most active vessels, it is seriously crippled for lack of medical officers. To remedy this matter, the Surgeon General recommends that the regulations which have been so obnoxious as to deter young men from entering the navy be removed, and that he be authorized to enlist any number of acting assistant surgeons he thinks the service may require.

THE *American Medical and Surgical Bulletin* says of the proposed movement in the American Medical Association: "We believe that it is only a matter of time when some such move will be undertaken, but we fear that average human nature has too strong a touch of bigotry yet for either side to accept such a solution of present difficulties. If sectarianism could be removed it is certain that public respect for us would at once increase. It is also certain that a union of the forces of all educated practitioners against ignorant pretenders would bring better results than the present method of warfare." Where is the man with the ability to lead such a movement to success?

PURPURA.*

BY WALTER SANDS MILLS, M. D., Assistant Visiting Physician.

Purpura is a word derived from the Greek πορφύρα, Latin *purpura*, meaning purple.

Purpura is a disease characterized by hemorrhages into the skin and mucous membranes. The appearance of the skin after such hemorrhages have occurred gives the disease its name.

Purpuric spots are sometimes secondary to certain other diseases, as in severe forms of the eruptive fevers. In such cases it is probably an indication of a deterioration of the blood. Purpuric spots are also said to occur at times in advanced cases of Bright's disease, in phthisis, and in old people. Some of the snake poisons and some drugs also produce these hemorrhagic extravasations. Poorly nourished persons who have been the victims of fleas, pediculosis, or other vermin, are apt to have purpuric spots as a result of the bites. These last are frequently seen on patients in such institutions as this.

Considered as a disease by itself, and not as a symptom, we find that purpura is variously classified by different authorities. It has a place in all works on the skin. In the majority of books on practice we find purpura classed with the constitutional diseases; in others we find it classed with diseases of the blood and blood vessels. I believe this last to be the proper classification. Goodno, by the way, does not mention it in his work.

The etiology of purpura is not known. The disease may appear in persons who seem to be perfectly healthy; it may appear in those who are anemic and ill-nourished. All ages and both sexes may become affected, although it is said that women are more often attacked than men, and that the disease is found with greater frequency between the ages of twenty and thirty. Of the three cases that have come under my observation one was a woman and the other two were men. The record of one is not at hand; the woman was about fifty years of age; the case that I show you to-day is a man of twenty-two. As purpura sometimes follows severe mental shocks it is supposed that the vaso-motor system controls the hemorrhages. The affection is not common. Personally, I have seen three cases—one while an interne in this institution in 1889, one in 1895 in private practice, the third, this case now in the ward. A search of the hospital records for the past ten years shows that of the 57,242 cases treated but one other case of purpura was reported; that case was treated in 1895.

Notwithstanding cases of purpura are so rare, the disease is not difficult to recognize if you have once seen a case; if you have not seen a case it may cause great anxiety as the peculiar eruption has an alarming appearance. Because of this, and because of the possibility of a fatal termination, as well as because of its rarity, I take the liberty of confining my clinic to-day to this one case.

The pathology of purpura is obscure. The extravasations are spontaneous; by some they are supposed to be a simple diapedesis of the red corpuscles. Whether due primarily to changes in the blood or in the blood vessels is not definitely known. Ziegler says that in spontaneous hemorrhages the endothelial lining of the capillaries allows the corpuscles to pass through, that the fault is in the vessels—not in the blood. On account of its resemblance to scurvy (it has been called land scurvy), and also because of the appearance of pupuric spots in the course of or following the eruptive fevers, in blood-poisoning and in other infectious diseases, purpura has been classed by some as a germ disease. No specific organism has yet been found.

The eruption of purpura is a spontaneous extravasation of blood into the connective tissue of the skin, forming ecchymosed spots exactly similar to those found after contusions—the ordinary black and blue spots. Just here it may be well to tell you that very slight injuries to the skin of purpuric patients will produce apparently severe ecchymoses. This may be of medico-legal importance, for patients suffering from purpura have endeavored to have the disease form the basis of a suit for both civil and criminal proceedings. The eruption is usually smooth, rarely elevated. As a rule it is neither sore to the touch, nor does it produce any subjective symptoms. When they first appear the spots may be of a bright red, as in this patient, or they may be more of a purple color, as in my private patient. The spots appear suddenly, without premonition, and gradually fade away. The spots do not coalesce, but retain their original size. The color first grows darker, then turns to a dirty yellow and gradually disappears. Many of the spots on this patient seem to fade from the center to the periphery. The eruption does not disappear on pressure. The ecchymoses vary in size from pin points to extravasations as large as the hand or larger. Their outline is irregular. Pressure of the clothing may make the spots larger; this patient has so far presented larger spots on the buttocks and shoulders than elsewhere, presumably because he lies mostly on his back and the weight of the body therefore rests on those parts. In more severe cases the eruption also appears on the mucous membrane. This patient has them on the hard and soft palate, on the gums, in the nostrils, and on the glans penis. We may have free hemorrhages from the mucous surfaces in such cases. Hemorrhage has occasionally occurred in the serous cavities as well.

Purpura may be divided into three forms: *purpura simplex*, *purpura hemorrhagica* and *purpura rheumatica*. The differences are not always clear and it is not always possible to assign a given case to one particular division. This case might properly be classed as either hemorrhagic or rheumatic.

In *purpura simplex* the extravasations of blood are limited to the skin. The patient presents no general dis-

* A clinical lecture delivered at the Metropolitan Hospital, New York City, Jan. 12, 1898.

turbance of the system, or at most very slight symptoms, as lassitude, and some loss of appetite.

Purpura hemorrhagica, the *morbus maculosis Werlhofii* of the Germans, is much more severe than the preceding form. It is distinguished by extravasations into the mucous membranes as well as into the skin. Hemorrhages may occur from the various organs, and we may have hematemesis, hemoptysis, or hematuria. This patient has some nose-bleed, and blood has been found in the urine. Albumin may be found in the urine of some cases. This form of the disease usually presents more or less constitutional disturbance; there is fever and anorexia; later anemia appears, and the patient may eventually die.

Purpura rheumatica, peliosis rheumatica, or *Schonlein's disease*, is a form of purpura distinguished by symptoms of acute rheumatism. There is swelling of the joints, pain in the joints, fever, sometimes followed by endocarditis. This patient has complained of sore throat and shifting pain in the joints. He also presents considerable fever, the temperature running as high as 102. I have placed this case in this division of purpura.

The disease most closely resembling purpura is scorbutus. The previous history of a lack of proper food, the spongy gums, and the development of the case, should make a diagnosis of scorbutus clear.

Some of the erythematous forms of skin disease may show eruptions similar to those of purpura, but the subsequent course of the disease will prevent any error being made. The purpura eruption appears in successive crops, the fresh spots of to-day looking a little faded to-morrow, and disappearing entirely after a few days.

The prognosis of purpura is always doubtful. Of the cases that I have seen one died—the hospital patient; my private case recovered. The patient that I show you is still under observation and the outcome is doubttul. In the more severe hemorrhagic forms of the disease the patient may die at any time from acute hemorrhage. In less severe, or rather in less acute cases the patient may eventually die of anemia and exhaustion from the continued loss of blood from the circulation. Many patients recover. My private patient was at no time confined to her bed; she was under treatment about two weeks.

We now come to the treatment.

The drug that the majority seem to have the most confidence in is *sulphuric acid*, because of its supposed hemostatic action. I find *sulphuric acid* to be indicated here, and it causes "blue spots like ecchymosis" in the skin.

The next drug most frequently recommended in textbooks is *arsenic*. Osler uses it in the form of *Fowler's solution;* he says it must be pushed until the physiological effects are seen, else it is of no service. I find *arsenic* to be indicated in the eruption, in the swelling that sometimes accompanies the disease, as in this patient, and for the fever.

Ergot is used on account of its specific action on the blood vessels in controlling hemorrhage.

Nux vomica, iron, quinine are given for their tonic effects later on.

Besides the drugs already mentioned some authorities recommend *crotalus*, the venom of the rattlesnake, because it produces many of the symptoms of purpura edema, ecchymoses, anemia, and disintegration of the blood.

Phosphorus also produces ecchymoses into the skin.

Hamamelis acts directly on the blood vessels causing hemorrhages.

Arnica, in the majority of cases, seems to me to be the nearest to a true specific. It acts directly on thev asomotor system, thus controlling the capillary vessel; it produces ecchymoses into the skin and mucous membranes; it causes edema of the skin.

The patient that I present to you to-day entered the hospital last Thursday; this is therefore the seventh day of treatment. Up to yesterday he received *arnica* tinct., then his medicine was chaged to *arsenic* 3-10. A detailed history of the case is as follows: Purpura rheumatica; A. B., aet. 22, white male. Has always been tolerably healthy.

Present history: One night about a week ago the patient first began to notice an itching and burning of the skin about the wrist and knee joints. On removing his clothes to ascertain the cause he found an eruption covering the lower extremities and consisting of red spots varying from one-eighth to one-third of an inch in diameter. A day or two later the ankles became red and swollen, presenting a picture of acute inflammation; still later pains appeared in the left shoulder and it and the right wrist became swollen. Then, after another day or two, these conditions disappeared, only to have the left wrist similarly affected. The patient entered the hospital January 6.

On questioning, he reports burning pains in left wrist and back of left hand, worse on active or passive motion, and on pressure. He is constipated.

The eruption is thick on the lower extremities in small spots. In the left gluteal fold the eruption forms a large single area.

A few spots also exist on the nose. The trunk is free.

Scrotum and penis swollen. Scrotum covered with the eruption so that it is purple. Temperature 100.8. Pulse 98; respiration 28. On account of the condition of the genital organ, the soreness of the throat, and the eruption (which was not understood,) the patient was at first given mercury.

January 7.

Dr. Mills first saw the patient to-day. He complains of sore throat, otherwise he feels pretty good. Examination of the body reveals a few spots on the legs of a distinctly purpuric character: *i. e.*, they look like ordinary black and blue spots. The spots in this locality are not very large. There is one spot on the back of considerable size, four inches long and two inches wide. This spot is extremely red and fiery looking. The scrotum is almost purple in color and immensely swollen. The penis is somewhat edematous; pushing back the prepuce reveals a few small spots on the mucous lining and on the glans. Where the weight of the body falls on the shoulders and on the buttocks there is also considerable ecchymosis. No spots can be seen in the mouth. Some of the older spots are fading away. Urinalysis shows blood in the urine. Temperature 101. ℞ Arnica tinct., twenty drops in two ounces of water; two drams at a dose every two hours.

January 8.

In the morning the hands were much swollen and the throat was sore. In the afternoon patient was much more comfortable, hands less swollen, throat better, ankles smaller. Penis is now very edematous, scrotum better. Edges of nostrils purple. Frequent nose bleed. Temperature rose to 102 and then dropped to normal.

January 9.

Can bend both knees without much pain. Throat feels much better. Right hand is a little swollen. Soreness in left arm and shoulder. Temperature fell to 96 at 2 a. m. later rose to 100.

January 10.

Feels very comfortable except throat, which feels swollen again. Hands are also swollen somewhat but not painful. Spots on trunk are bright red. Slept well. Appetite good bowels regular.

Later: Right eyelid very edematous and the edges ecchymosed. More spots have appeared on the legs, and back—the old ones are fading, some are nearly gone. The face has a few. The soft palate and gums are red and swollen. Lower edges of the eyelids are affected. Scrotum much better. Penis red. More nose bleed. Temperature varied from 99.4 to 101.

January 11.

To-day the eyelids are so edematous that the eyes are closed. The whole right arm is also much puffed up with edema. Large ecchymosis on right arm. A few spots on face. Soft palate and roof of mouth look mottled with the eruption. Nose looks badly too, about the nostrils. Arnica has been given until now. ℞ Arsenic 3-10; one grain every two hours, on account of edema and anemic condition. Patient begins to look very anemic. Temperature from 99.8 to 101.8.

January 12.

Patient's head looks as if it could float away, it is so puffed up with edema. A good-sized spot covers the bridge of the nose. The buttocks are thickly covered with spots, some of which are raised like urticaria. The legs are nearly clear.

Showed this case to the students of the college at the hospital clinic to-day.

It is always best to put the purpura patient in bed.

This man has been in bed since he entered the hospital and is on a liberal diet.

The points of special interest about this case are the peculiar migratory edema, the pain in the joints which ac-

companies the edema, and the fever. The temperature seems to be most erratic; it has been taken every four hours and I will show you the chart.

The eruption when it first shows itself is of a bright red, brighter than in either of my other cases. A few of the spots on this man also present an appearance similar to urticaria. So far the front of the trunk, the abdomen and chest have been free from any eruption; why I do not know.*

The patient now is beginning to look very anemic. With the exception of some slight pain which he complains of in the swollen parts he appears to be very comfortable. His appetite is good and the bowels are regular.

Note.—Several remedies were used in the case until Jan. 25, 1898, when the patient, being no better, and edema was the marked symptom, gave apis mellifica, with excellent effect, so that now he only suffers from anemia.

152 West 119th Street.

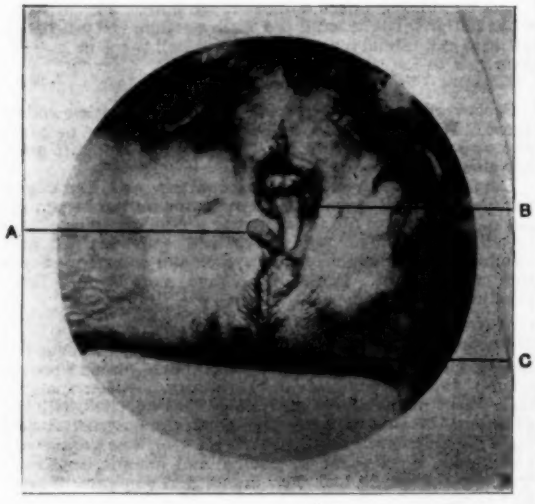
GENITAL ANOMALY IN A DOG.

By Ernest B. Sangree, A.M., M.D.

Professor of Pathology in the Medical Department of Vanderbilt University, Nashville, Tenn.

Some time since there was brought me a small mongrel dog with the information that it was a hermaphrodite. The man who brought it declared that the animal went into periodical heats, was pursued by other dogs, and when cornered howled piteously as if in great pain.

The animal was marked by a considerable anomaly of the genital organs, and in addition to this had neither tail nor rudiment of one. The anomaly consisted in a high degree of hypospadias, if such be the correct term to apply to non-closure of the penile sheath, one undescended testicle and a curious reduplication of the rectal mucous membrane, giving at first the appearance of a rectum and vagina.



The penis, probably by reason of constant exposure and friction, though possibly also due to congenital malformation, was indurated and club-shaped, and the penile sheath widely open to its base. Upon dissection the other testicle was found lying in the inguinal canal, not having descended.

The opening just above the anus was a blind pouch two

centimeters deep and lined with mucous membrane. The coccy was present and turned slightly inward at its lower end. No vestiges of female organs were found.

* Spots appeared on the abdomen and chest January 17, five days later.

BIBLIOGRAPHICAL.

Aids to Aseptic Technique. By A. D. Whiting, M.D., Philadelphia: J. B. Lippincott Co., 1898.

In this small volume no attempt has been made to write a treatise on aseptics, but only to furnish aids to aseptic technique, and to explain why certain procedures are undertaken, and why they give the desired results.

The Examination of the Internal Viscera, by Means of the Phonendoscope, with Especial Reference to the Stomach and its Contents, with a Report of Experiments. Read before the twelfth International Medical Congress at Moscow, August, 1897, by Professor Aurelio Bianchi (Parma). Philadelphia: George P. Pilling & Son.

Copies of this interesting paper may be had free of the publishers by mentioning this Journal.

International Medical Annual and Practitioners' Index—A Work of Reference for Medical Practitioners. 1898. E. B. Treat & Co., 241-243 West Twenty-third Street. Price, $3.

The sixteenth annual issue of this work is one of special excellence. The facts on *new treatment* in which the past year has been unusually rich have been gathered together with great industry and presented in a clear and scholarly manner. An atlas of the "Bacteria Pathogenic in Man," by S. G. Shattuck, F.R.C.S., will attract marked attention. The beautiful illustrations are accompanied by a practical description of the methods of isolating and examining these disease germs, which will render their detection easy to the general practitioner. The annual is a record from year to year of the new developments in our profession, placing us in touch with the progress of the age. The entire series is one of the most valuable additions a physician can make to his library.

The Psychology of Suggestion: A Research into the Subconscious Nature of Man and Society. By Boris Sidis, M.A., Ph.D., Associate in Psycology at the Pathological Institute of the New York State Hospitals. With an Introduction by Prof. William Jarn of the Harvard University. New York: D. Appleton & Co., 1898.

The work is divided into three parts: suggestibility; the

self; man as one of a crowd. The author in his experiments tries to show that the suggestibility of waking persons follows an opposite law to that of hypnotic subjects. Suggestions must be veiled in the former case to be effective; in the latter case the more direct and open the better. The author also tries to show that the subliminal or ultramarginal portions of the mind may in normal persons distinguish objects which the attentive senses finds it impossible to name.

In Part II. on "The Self," a very full account is given of double personality, subliminal consciousness, etc. In Part III. Crowd Psychology is discussed in a very ingenious and thoughtful manner. It is full of practical suggestion and will be read with great interest by students of public affairs. The treatise is full of original thought and interesting in a high degree.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In Twenty Volumes. Volume XIII. Infectious Diseases. New York: William Wood & Co., 1898.

Ptomains, Toxines and Leucomains are very ably handled by Victor C. Vaughan, of Ann Arbor. Professor Vaughan's published treatises in this department have been the most clear and scientific of any presented to the public. The present treatise covers 131 pages.

This is followed by a very excellent paper on infection and immunity, by Prof. Harold C. Ernest, of Harvard College. The author gives first the experiments leading to our present ideas upon infection, and the methods by which it may occur, and second, the consideration of immunity, natural and acquired, covering about 150 pages. Drs. Ernest Hart and Solomon C. Smith, of London, give a very instructive paper on the various forms of disease-producing contaminations to which water is subject. Prof. Dawson Williams, of London, discusses the duration of the periods of incubation and infectiousness in acute specific disease. Dr. John William Monroe, of Dublin, treats of smallpox; Prof. P. Bronardell, of Paris, on vaccine, and Jules Comby, of Paris, on mumps.

SEXUAL NEURASTHENIA: Its Hygiene, Causes, Symptoms and Treatment; With a Chapter on Diet for the Nervous. By George M. Beard, A.M., M.D. Edited with Notes and Addition by A. D. Rockwell, A.M., M.D. Fifth edition with formulas. New York: E. B. Treat & Co., 1898.

This almost classical work is so familiar to the profession as to call for but little more than the announcement of a new edition. The remarks upon the diet for the nervous, which the author considers so important, are so concise that we quote a few of the axioms.

"By the theory of evolution, these three propositions, with regard to food should be true:

"*First:* Living beings feed on that which is below them in the scale of development.

"*Second:* The best food for man is that which is just below him, or nearest to him in the scale of development.

"*Third:* Food is difficult for assimilation for man in proportion to its distance below man in the sale of development.

"The earth feeds on gases; fruits and cereals feed on the earth; the lower animals feed on fruits and cereals and other animals, man therefore should feed on the lower animals, with a small proportion of fruits and cereals.

"In proportion as a man grows sensitive through civilization or disease, he should diminish the quantity of cereals and fruits, which are far below him in the scale of evolution, and increase the quantity of animal food, which is nearly related to him in the scale of evolution, and therefore more easily assimilable. The best food for nervous invalids, according to the scale of evolution, would therefore be: beef, mutton, fowl, eggs, milk, fish, butter, wheaten bread. Milk is animal food in its most easily assimilated form, and as it is the best food for children, so it is the best for adults, when their stomachs becomes sensitive like children."

The Living Age for April 2nd will contain the first of a series of sketches and stories by Paul Bourget only recently published in France and specially translated for *The Living Age*.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

Vaccines Chemically Defined.—M. Physalis has demonstrated that the biliary salts and cholesterine may be inoculated against the blood of the viper; As he has observed that perhaps his products were not very pure, and probably contained ferments, he has renewed his experiments with vegetable cholesterine, and the biliary cholesterine prepared by Prof. Armand and obtained identical results. He has also experimented with tyrosine, pure and crystallized, taken from the carrot, that too, coming from the tubercles of the dahlia, and from albuminated animal matter. In the three cases the inoculation against the poison of the viper was complete; the juice of the dahlia produced the same effect. The fact is then established that vegetables contain inoculable substances, and some of these substances are perfectly defined chemical bodies. M. M. Camus and Gley have settled the question of the mode of action of the toxine of the serum of serpents by showing that it is in the serum that the venom resides, and they explain its mode of action thus: The serum causes the transpiration of hemoglobine into the tissues and liquids of the organism.

ACADEMY OF MEDICINE.

Repair of the Walls of the Bladder. — M. Comil verified the mode of repair of the vesical walls in two days after an operative wound. In the first, an incision was made of five centimeters at the base of the bladder. Ten days thereafter the lips of the wound were reunited with only a linear trace, and with an adhesive inflammation of the great epiploon at the upper part of the suture. In the second, an entire portion of the bladder was removed by a circular incision, and the great epiploon was attached by catgut to the opening of the vesical cavity. In ten days the vesical wall was completely reconstructed at the expense of the peritoneum. It results from these experiments that operative wounds of the bladder reunite in the animal with extraordinary facility, and in man they would probably do the same thing just as kindly.

Osseous Grafts upon the Living. — M. Ricard.—I have had the opportunity of seeing again two patients upon whom I, many years ago, performed osseous grafts, which succeeded perfectly. In the first I replaced by the scapula of a young dog the loss of substance caused by a resection of an osteo-sarcoma. In the second I practiced a total rhinoplasty by the aid of the phalanx of the fourth metatarsal bone of the foot. From these two observations I conclude that osseous grafts are perfectly well borne, no elimination from them, and that if absorbed, they are replaced by a fibrous substance sufficiently solid. As respects rhinoplasty, especially the union of the graft with the living bones, gives results superior to all that can be obtained by other methods.

Surgical Treatment of Epilepsy.—M. A. Chipault.—The bilateral resection of the superior cervical ganglion of the sympathetic, an operation without danger or inconvenience, seems to present, in genuine epilepsy, therapeutic advantages, such as entitle it to be generally practiced. It deserves also to be considered in certain forms of idiocy and semi-idiocy, and also in certain mental diseases. It opens a new field for cerebral therapeutics, whose numerous and most interesting portions, I propose in the future, to explore.

New Salts of Silver in Ocular Therapeutics.—M. Darier: In purulent ophthalmia, as in all the secreting affections of the conjunctiva, the nitrate of silver is recognized as a specific, but upon an organ as delicate as the eye this agent has too caustic an action. So I propose to replace it by salts or organic combinations of silver, which, because of their penetrating power and active antiseptic action, give therapeutic results as good, without causing the pain and violent reaction which always accompany cauterization by the nitrate of silver. Protargol, a combination of protein and silver, fully and advantageously replaces all the other salts of silver, because with penetrating force, and a powerful bactericidal action, it is not at all irritating, and can be preserved for a long time in solution without alteration. Protargol has besides the advan-

tage of not being precipitated from its solutions by the albumins, alkalines or sulphurs. It can combine equally with cocaine, which opens a new field in the therapeutics of conjunctival affections.

The Indications and the Dangers of Vesicants.—M. Huchard: One of the reasons that compel me to be very reserved in the employment of vesicants is the facility with which they produce cystitis or nephritis in persons who are predisposed. For this reason, I never order them for old persons, the gouty or the arterio-sclerous, and patients affected with any form of renal disease. But vesicants are dangerous, not only because of the cantharides, which they contain, but because of the wound which they produce. In all infectious or cachectic disease, pyrexiae, tubercular, etc., it is useless to create a new microbic surface upon the skin, and thus to compel the kidneys to eliminate toxines produced by secondary infection. I am also a declared enemy of vesication in pneumonia and pleurisy. As respects the revulsive and analgesic action of vesication, it is a reality, but there are other means of obtaining this without danger to the patient, and among them I would cite common sinapisms, hot water applications, the incandescent iron, etc. There still remains the interesting question suggested by M. Robin, viz: That of the increase of gaseous changes under vesicant influence. This increase is true, but it must be remembered that it can be produced by all cutaneous excitants, whatever they may be. The cold bath, for example, unites in itself all the benefits that are vainly claimed for vesicants in the active pyrexiae. It increases gaseous changes, facilitates the elimination of toxines, stimulates phagocytosis, gives tone to the nervous system. You doubtless find my ideas a little radical, but you will please remember that moxas, cauteries and setons have disappeared long ago, since discussions like this and from the effects of the progress of new therapeutics based upon a more comprehensive medical doctrine, and one conformable to the reality of facts. Vesication must die in the age of Pasteur. M. Panas showed that vesication is far from being abandoned in general surgery and ophthalmology. By creating an artificial pathological surface it produced a revulsive phlogosis that is eminently useful from the fact that it gathered leucocytes in a region where their presence is indispensable. M. Comil recalled the physiological action of cantharidin upon the tissues and cells. His researches at different times upon the microscopic alterations induced by experimental cantharides poisoning, permitted him to affirm the great dangers of the employment of vesicants every time that the kidneys are threatened by some original or acquired disease—a thing impossible to know in advance. M. A. Robin said that M. Huchard had diverted the discussion. He forgot to distinguish between the general and the respiratory changes, it is these that vesication augments in very large proportions. If it is true that it is well to favor the elimination of toxines by all means, it should not be forgotten that vesication, by oxydizing the tissues, burns up these same toxines upon the spot, and transforms them into harmless soluble products.

Surgical Treatment of Prostatics.—M. Chandelux: Prostatotomy, prostatectomy, castration, and resection of the vasa deferentia have not yet given very encouraging results, and as good, if not better may be obtained by simple catheterism. When this presents too great difficulties, and the canal is not permeable except at long intervals, the last resource is in the establishment of a hypogastric meatus, which becomes an operation of necessity.

MEDICAL SOCIETY OF THE HOSPITALS.

Apropos of Renal Permeability.—M. Troisier.—In a diabetic of thirty-one years, urinating from fifteen to twenty liters of fluid, and about one kilogram of sugar daily, I injected two cubic centimeters of a solution, 20th, of methylene blue, which appeared in the urine in less than half an hour after injection, the maximum of coloration continuing an hour and a half. Elimination was made as rapidly as in the healthy condition. It should be noted that there was a little albumin in the urine, two to four gr. daily, there seemed to be no lesion of the kidneys. M. Achard.—Albumin is rarely found in active diabetes. In M. Troisier's patient there might have been slight lesions of the kidneys, partial, but not sufficient to interfere with the renal function. M. Rendu.—I have often observed the fact that, histologically, the kidney retains sufficient functional power, but under the influence of an intercurrent infectious disease, uraemic symptoms may appear.

Phlebitis of the Leg Following Streptococcus Angina.—M.M. Troisier and Dedoux: A young man was taken with pultaceous angina of a herpetic form, with fever, etc. Examination of the exudation revealed streptococci. After a few days pain occurred in the popliteal space, with swelling of the foot, and finally phlebitis of the popliteal vein, which soon diminished in intensity, and in ten days the patient was convalescent; no micro-organisms were discovered in the blood. M. Uaquez saw phlebitis following phlegmonous angina, other observers have noted grave anginae succeeding to follicular anginas. M. Mathien was charged, during service as interne, to look for the origin of varicose phlebitis, before considered as of mechanical origin. He often proved it to be the result of infection, and of erythema, following an attack of angina.

Bacteriology of Acute Rheumatism.—M. Triboulet detected the presence of a diplococcus in eleven cases of acute rheumatism. He found it in the blood in variable quantities. Sometimes rare, and again very abundant. In two cases he discovered also the bacillus of Achalme in the blood, and another very fine bacillus. The three micro-organisms were found upon the same lamellae. Inoculations made upon animals with cultures of these diplococci, caused a septicemia with local cardiac complications, especially of the left heart.

M. Chantemesse, in the name of M. Marinesco presented a communication upon the relations of tetanus with the nerve cells, from a histological point of view. Examination of the cells at different periods of the affection explained the slight action of antitoxine, when tetanus was pronounced.

The Difficulties of Tubage.—M. Bayeux.—Sometimes the epiglottis escapes the finger when it is attempted to get it out of the way at the moment of tubage, either because of its conformation or of its rigidity. It is necessary to suppress it entirely, at the same time to follow along the arch of the palate.

Treatment of Hemorrhages by Local Application of Gelatinized Serum.—M. Siredey: I desire to call the attention of the Society to the excellent results obtained in the treatment of hemorrhages by the local application of gelatinized serum, according to the method of M. Paul Carnot. During four months I have treated nine cases of grave metrorrhagia, with constant success. They were caused by fibrous bodies, miscarriages, and retention of placeutal *débris* and decidua, and many of them had resisted the ordinary means, prolonged warm injections, tamponing, etc. The treatment employed consists of the following methods: After injecting warm boiled water to cleanse the vagina of clots, the cavity of the uterus is plugged with a tampon of lint, soaked in gelatine, then sterilized gauze soaked in gelatinized serum is introduced into the uterine cavity. The arrest of the hemorrhage is thus nearly always obtained without having recourse to further tamponing. In one case, not having gelatinized serum at the time of my visit, I prescribed an injection of the serum, taking care to elevate the hips to insure stagnation of the blood in the vaginal *cul de sac*, in contact with the uterine neck. In the treatment of epistaxis the employment of gelatinized tampons or injections gives equally good results. The preparation of the serum is very simple. Following is the formula:

Chloride of sodium, 7 grams.
Water, 1 liter.
Gelatine, 50 grams.

In producing sterilization care must be taken not to go beyond 105 degrees, without that the gelatine would undergo modifications in its mode of coagulation. Sublimate 1-1000, or phenic acid 1-100, should be added and bottles of different sizes prepared that will last a long time. Finally this method has been efficacious in all the cases in which I have employed it, and has the advantage over all other hemostatic methods of being perfectly harmless.

Foreign Body in the Stomach.—M. Hayem, on making an autopsy, found a very large soft mass in the stomach, which on chemical examination proved to be composed of butter, the formation of which he thought was due to the stagnation of milk, which the patient had taken in great abundance.

SURGICAL SOCIETY.

Conservative Treatment of Tubercular Arthritis.—M. Gerard: Marchant presented a patient with tubercular osteo-arthritis, which seemed to necessitate amputation. Injections, in considerable number, of the chloride of zinc, produced excellent results. M. Lucas.—Championnier remarked that in the adult it was necessary to employ a large number of the zinc injections—50, 60, 70, or more—to get any result, very many more than the two or three announced by M. Lannelonge for the cure of tubercular osteo-arthritis. M. Routier cited the case of a patient affected with tubercular osteo-arthritis of the foot, which immobilized him for months, and which was rapidly cured in six weeks by massage. M. Michaux presented a patient with ulcerative arthritis of the wrist, and another with tubercular osteo-arthritis of the foot of a very grave character. In both cases a simple, conservative treatment produced results far beyond his expectations.

Aseptic Ligatures in Inoperable Cancer of the Womb.— M.M. Hartmann, and Fredet: Ligation of the uterine artery at its origin is admissible surgically, when the constant relation of the artery with the ureter, above the ovarian fossette is utilized. As respects uterine hemostasis, the ligation of this vessel is far superior to that of the internal iliac. In uterine cancer aseptic ligatures appear to diminish, at least, temporarily, the discharges, but do not modify in any marked degree the progress of the neoplasm. An interesting fact in this connection is, that the aseptic ligature of the vessel is never followed by the production of a clot, thus confirming in the human the experimental results of Duplay and Lamy.

OBSTETRICAL SOCIETY OF PARIS.

Thyroid Auto-Intoxication of Gravid Origin.—M Bonnaire presented a primipara of 24 years, who had no goitrous or neuropathic antecedents, personal or hereditary. During pregnancy there occurred thyroidal enlargement, rapid in increase and decrease, which caused symptoms of mechanical suffocation, with cyanosis, orthopnoea, and paralysis of the right vocal cord. In the seventh month an attack occurred that rendered death imminent from asphyxia, and an effort was made to evacuate the uterus prematurely by means of Tarnier's balloon, at the same time employing an active iodine treatment internally. Under the combined influences of medical treatment and the mechanical dilation of the cervix, the grave phenomena of suffocation disappeared, and the tumor receded. Upon expulsion of the balloon, uterine contractions ceased, and pregnancy was permitted to continue, with the precaution to evacuate the uterus rapidly in case of a return of the danger. At the same time that retrocession of the goitre was produced, and ten days after balloon expulsion, fever set in and lasted a week, without any appreciable inflammatory or other cause. Hysterical troubles appeared—epigastric bolus, local hyperaesthesia, and slight hemianesthesia—entirely unlike the accidents of mechanical suffocation. In four weeks the goitre diminished four centimeters. This was arrested and the swelling recurred slightly. The iodine treatment seemed to have lost its effects. Thymic opotherapy was substituted, and as the albuminuria, which had disappeared for six weeks, returned, an absolute milk regimen was maintained. After discussing and rejecting the hypothesis of an affection purely hysterical, M. Bonnaire concluded that it was a thyroidal auto-infection—incomplete Basedow's disease, without exophthalmia or tachycardia, connected with pregnancy and characterized by enlargement of the thyroid gland, thyroidal fever, hysteriform troubles, and albuminuria.

Midwives, and Their Right to Use the Forceps—A special commission of the Chamber of Deputies has just received a new petition from Madame Anna Bedrines, a midwife of Egresille—Seine et Marne—asking for a legislative vote authorizing midwives to use the forceps in labor. The commission, through its reporter, M. Isaac, has refused the petition for the following reasons. The law of November 30, 1892, in article 4, formally interdicts the use of instruments to midwives. The decree of July 25, 1893, maintains two classes of midwives and imposes upon both two years of study. These conditions are sufficient for the duty and the aid required of them in parturition. To entrust to them the handling of instruments is to transform their mission, and to undertake it would make it necessary for them to begin by increasing their studies and prolonging their duration.

The correspondent of *Figaro*, in London, M. Paul Villars, has discovered in the capital of the United Kingdom a pharmacist who calls himself Julius Caesar. What a droll contrast between the name and the profession of him who bears it. Julius Caesar selling ointments at retail!

RECENT IMPROVEMENTS IN THE TREATMENT OF CHRONIC HEART DISEASES BY EXERCISE AND CARBONATED BRINE BATHS.*

By Thomas E. Satterthwaite, M.D.

Dr. Satterthwaite stated that the purpose of his paper was to demonstrate his own method of giving the exercises and carbonated brine baths in chronic heart diseases. He advocated the resisted movements almost exclusively, i. e., the patient made regular *voluntary* movements *resisted by the physician* or operator. These exercises were quite gentle at first, and in some cases there was little resistance made by the operator during the entire course. During these exercises the operator always watched the patient closely, so as to detect any weariness on his part, or any increased rapidity of respiration or pulse—indications that the exercises should be suspended long enough for the restoration of the equilibrium, or breathing or circulation. After each movement there should be an intermission *in all cases*. The operator should always use both hands, supporting the part that was exercised with some firmness. At the end of each movement the part was to be restored to its natural position at the time the motion was begun. During the exercises the patient was directed to breathe naturally. The movements themselves were simply flexion, extension, adduction, abduction, and rotation of the limbs, neck and trunk. He usually begun with the simple exercise of flexing and extending the wrist, bringing into play by these maneuvers all the muscles of the forearms and most of the muscles of the hands and fingers. Then followed flexion and extension of the forearm on the arm; then separation and opposition of the arms on a horizontal plane, until the extended arms formed with the body a straight line. From this point the return movement was made without force to the original position. If this return movement were resisted there would be fixation of the chest and embarrassment of the breathing, which was to be avoided.

Following these exercises, which were conducted by Dr. H. V. Barclay and an assistant, were a series of other movements complete enough to bring into play all the principal muscles of the body in an orderly and systematic manner.

Dr. Satterthwaite then stated that during the past few months he had with the assistance of Dr. Barclay introduced a new series of what he called special respiratory exercises, which were passive in character, i. e., they were not resisted by the operator.

A simple one was as follows:

The patient lying on his back with the head a little elevated, the operator standing at his side passed his two arms under the chest and then raised it slowly and gently as far as possible without lifting the patient off his bed. Then the chest was allowed to settle back into its normal position. This movement was of the nature of artificial respiration, and was useful in the cardiac degeneration of obese persons and in some cardiac cases, with respiratory embarrassment owing to chronic pulmonary disease, for in some rare cases of chronic pulmonary disease with a cardiac complication, great relief and benefit might be obtained for the patient without danger, if such respiratory exercises were judiciously applied.

Another of these respiratory series consisted in elevation of the shoulders. The patient sitting on a stool, and the operator on another stool behind him, grasped the axillae of the patient from in front: he then lifted the patient's body upwards as far as it would go without leaving the stool, and then drew the body over backwards, pressing his knee against the hollow of the patient's back. The

* Abstract of a paper read before the New York County Medical Society, March 1, 1898.

body was then allowed to settle down easily into the original sitting position.

Dr. Satterthwaite said, that as a rule, the exercises should begin with about a half a dozen and end with less than 20. The duration should be at first about 20 minutes and extend to half an hour or even an hour, but not longer.

A moderate amount of exercise daily in the open air was not only desirable, but formed a part of the treatment. Each day the patient should gradually extend his walk, but steep inclines and hurried movements should be avoided altogether while under treatment.

Every course of treatment was preceded by a variable period of rest, during which the patient was thoroughly examined, and prepared for the course, much as a patient is prepared for a surgical operation.

At first he gave simple warm saline baths; then added more salines; then carbonated them, and later added chloride of calcium and the other mineral constituents of the Nauheim waters, gradually increasing the strength of the baths in all of their ingredients, as was indicated by the individual case. The duration of an immersion was from 4 to 20 minutes. The temperature never exceeded 95 degrees, and rarely fell below 90 degrees, though it was admissible to lower it to 88 degrees, or even 85 degrees.

At first the baths were given every other day; then there was an intermission every third day, later every fourth day, still later every fifth day.

A course of baths lasted from 4 to 6 weeks.

Almost any one could improvise the Nauheim bath, if he could get sea salt or rock salt, or any ordinary bathing salt, chloride of calcium, bicarbonate of soda and muriatic acid, and had at his disposal a wooden, porcelain, or enameled tub.

He did not recommend, however, the use of hydrochloric acid and bicarbonate of soda to make carbonic acid gas, because muriatic acid was liable to burn the skin or the clothes, and the evolution of gas was too rapid, and of comparatively short duration. Then the pharmaceutical chloride of calcium was very deliquescent and had to be kept in well stopped bottles. He also called attention to the danger of using an impure chloride. Some physicians in reporting on the Nauheim baths had spoken of the chloride of lime as an ingredient of the bath. This was a mistake. A physician in a western town had made this mistake, and the chloride of lime (hyperchlorate of calcium or bleaching powder) had been used in place of the chloride of calcium. As a result chlorine gas had been evolved in large quantities; the patient was got out of the bath without harm, but the nurse had a severe attack of bronchitis and laryngitis.

Such accidents, and in fact all dangers of the sort, were eliminated by the use of simple tablets of an acid sulphate of soda, to replace the muriatic acid. Following out the plan of Sandow, of Hamburg, Germany, Mr. H. A. Cassebeer, of this city, had prepared such tablets. Eight of these tablets or disks, wrapped in heavy lead foil, together with four small packages of the bicarbonate of soda, were packed in a small wooden box 8x4x6 inches. These ingredients put together into a 50-gallon bath would charge it with one per cent. of carbonic acid gas. This bicarbonate is almost chemically pure, and the acid sulphate practically so also. All the water of crystallization had been eliminated from the disks, which contained about 42 per cent. of free acid, and did not deliquesce. They were to be put into the bath 5 to 10 minutes before the patient was immersed.

By this method the evolution of the carbonic acid gas was continuous until the tablets were dissolved.

In making the brine he used the sea salt, rock salt, or the concentrated brine salts (known as Mutterlauge salt) formed by evaporation and boiling of the Mutterlauge, or residue, after the commercial salt had been removed. He first began with our ordinary sea-salt, so as to get the benefit of the iodides and bromides contained in it. Then as larger quantities were used, he substituted rock salt, which dissolved more readily than the former, fortifying the latter with gradually increasing amounts of the concentrated brine salts. The chief advantage of the latter was that they contained 75 per cent. of chloride of calcium in its natural state, together with the other residual salts of the Nauheim Springs.

Remembering that these concentrated brine salts contained three parts in four of chloride of calcium, one could always make use of the exact quantity of the chloride by using a proportionate amount of the concentrated brine salts.

A scheme for a six weeks' course of baths would be about as follows:

First Week—½ per cent. warm sea salt bath (2 lbs. to 50 gals.) Temp. 95 to 94 degrees F. Duration 4 minutes. Intermission on third day.

Second Week—¾ per cent. warm salt bath (3 lbs. to 50 gals.) Temp. 94 degrees to 93 degrees F. 6 min. Intermission on fourth day; ¾ per cent carbonic acid gas.

Third Week—1 per cent. warm rock salt bath (4 lbs. to 50 gals.) Temp. 93 degrees to 92 degrees. Carb. acid gas. ½ per cent 8 min. Intermission every fourth day.

Fourth Week—1¼ per cent. bath salt, warm (5 lbs. to 50 gals.) Temp. 92 to 91 degrees F. Nauheim concen. brine salts, 8 oz. 10 min. Carb. acid gas, ¾ per cent. Intermission fourth day.

Fifth Week—1½ per cent. bath salts (7 lbs. to 50 gals.) Temp. 91 to 90 degrees F. Nauheim concentrated salts, 10 oz. 12 min. Carb. acid gas, ¾ per cent. Intermission fifth day.

Sixth Week—2 per cent. bath salt. (10 lbs. to 50 gals.) Temp. 80 to 88 degrees F. Nauheim concentrated salts, 12 oz. and carb. acid gas. 1 per cent. 14 min. Intermission every fifth day.

Dr. Satterthwaite stated in conclusion that the patient did not always feel better after a bath. There might be some precardial oppression, but this discomfort usually passed away at the end of a week.

Baths and exercises each accomplished the same result, but the most rapid and brilliant results were obtained when both were used together. But they were useful only up to a certain point; after this has been reached they were harmful, and if at any time there was a tendency to relapse, the baths should be suspended. Generally, however, to be resumed again after a day or two. The final steps in the treatment consisted in two or three weeks of rest at some place of moderate elevation. In successful cases the improvement was gradual and sometimes did not fully show itself until the patient had resumed his ordinary mode of life. The improvement might continue for many months, and in his own experience sometimes for more than a year.

DISCUSSION.

H. V. Barclay, M.D., said: The method of treating heart disease, by exercises is not a new one. It has been used in Sweden for the last twenty or thirty years. What is new in the Schott system is not the exercises themselves, these being identical with those used by the Swedish or Lings method, but the selection or prescription of them for this particular kind of cases. While the Swedish treatment applies these resisted exercises chiefly, but not exclusively, to the limbs, and more particularly to the parts below the elbow and knee, the Schott system aims to act upon the muscles of the whole body. The Swedish like the Schott system recognizes that the exercises must be extremely mild in character, they must under no circumstances cause any distress in the patient's condition whatsoever, indeed, the success of the treatment depends upon this very fact. From ordinary gymnastics or training we know, that there is a limit, an individual limit, I may say, within which exercises will do good. If a person goes beyond this limit, a harmful result will follow. To patients suffering from heart disease this limit is very low, it is very soon reached; hence the great care that has to be observed. To guard against accidents the Swedish system advocates the sitting or lying down positions, in which to apply the exercises in bad cases, and this I am told is also recommended by one of the leading physicians residing at Nauheim. There is some difference in the performance of the exercises. By the Schott method the movements are performed, but one time each, in the Swedish they may be repeated several times, but as the force used, or rather, the resistance offered is duly moderated, it amounts practically to the same. Having, however, often to depend upon operators who are not physicians, for the administration of the exercises, and who cannot be relied upon in their judgment of the patient's condition, or the effect of the exercises, it is readily granted that of the two, the Schott system is much the safer. It has also the great advantage of causing a much larger number of muscles to be exercised. In Sweden on the other hand, what are termed passive exercises are employed extensively, and to

all parts of the body. These exercises are performed not *by* the patient but *for* him and are entirely safe. Chief among them is the respiratory class. Patients suffering with heart disease are much troubled by dyspnoea, and these exercises, the action of which is to assist and facilitate respiration, are therefore clearly indicated. In fact, the respiratory apparatus is also a chief factor or adjunct to the circulation. Through inspiration the venous blood is drawn towards the chest, through expiration the blood is forced from the lungs back to the heart by the pulmonic vein, an action the importance of which is too well known to all present to make it necessary for me to dwell further upon. Experience has also proven these respiratory exercises to be of the utmost value, and every patient who has tried them will be able to testify to the relief they give him. They are a most important complement to the Schott system. A few words about the therapeutic action of the muscles on the circulation. We are, when speaking about the blood circulation, too apt to think of the heart as the only propelling force. But there are several others. I have already alluded to the important assistance given by the respiration, and will here call attention to that produced by muscular contraction. Other speakers have already considered the reflex action through the nervous system, but none has dwelled sufficiently on the importance of the mechanical part. Every time a muscle contracts, it empties itself of blood, which we know can only flow in one direction; into the veins and by them back to the heart. When it again relaxes the arterial blood flows easily into it. In each muscle we thus have an auxiliary force to the heart. If we remember that it is here, in the capillary blood vessels, that the circulation meets with the greatest resistance, and when we further consider that the greater part of our body consists of muscles, it is easily understood that the appropriate use of muscular exercise must be of great benefit to a weak and failing heart.

In closing the discussion Dr. Satterthwaite answered the objection made that these movements were unnecessarily particularized by saying that he had endeavored to show by actual demonstration the scheme of a course of resisted movements in detail, so that any member of the profession could understand how to apply them in practice. The exercises in his scheme were numbered that the physician might select those that were suited for the individual case. It was a convenient way of indicating to the operator the precise exercises that were to be given. He had also shown the disks and sulphate of soda, so as to demonstrate that any member of the profession could by these simple means charge a bath with any required strength of carbonic acid gas.

So far as the actual results were concerned on the heart itself, he thought it was already a dead issue, and that doubters should by this time have been convinced that the heart may contract under this treatment. In fact, that the heart does readily contract had been proved by skiagraphs. But the heart does not always contract in every instance. It had been charged that in this treatment there had not been proper discrimination as to the proper cases. This statement he resented, so far as his individual experience was concerned. He did not treat by this method cases of acute endocarditis, or pulmonary cases with acute symptoms. In fact, the method was limited in its application to a certain class of chronic cases. The treatment by baths and exercises were only new therapeutic measures intended not to supplant other well established methods, but to extend them. Briefly stated, carbonated baths and exercises were designed chiefly for heart failure, or loss of compensation, when other means had failed.

ANTITOXIN — TYPHOID — COCCYODINIA — INTERSTITIAL NEPHRITIS.

I do not propose, members of the Clinical Club, to make this an antitoxin evening, but at some recent meetings antitoxin has appeared to be the under dog, and I wish merely to say a kind word or two for the animal. My experience in the use of antitoxin has been very satisfactory and favorable. My first observation of its action was in July, 1895, with a case that was perfectly hopeless. Patient had been sick five days with no treatment, under the mistake that it was mumps. Child was dying when I was first called. Tried antitoxin merely to do something. Knew that nothing else would be of use. Patient died inside of eighteen hours, but other cases in the family did so well with antitoxin that I decided to use it in later cases. Still have not used it in mild cases—only when prognosis appeared doubtful. One case, after continuing four days with the pharyngeal form, developed the laryngeal, with quite considerable stenosis. I used the antitoxin—no other remedies whatever—and the case did well. I sometimes use peroxide nasal douche, or gargle, or both, for cleansing purposes with the antitoxin. In one severe case I resorted to other remedies while using antitoxin. Nov. 18th, 1897, was called to see a child two and one half years old. Case appeared to be not severe at first, still it was decided enough, that in reporting it I said that culture test was not necessary, as clinical diagnosis was plain; and after I had ceased to visit the case the Board of Health reported bacilli in the throat, and would not let other children of the family attend school for some weeks. When I first saw the patient she had been sick about twenty-four hours. Quite a considerable membrane on the tonsils—some on the pharynx. During the next few days the child got steadily worse; in about two and a half days she had a great deal of nasal diphtheria, and in another day and a half laryngeal stenosis very marked. Nov. 23d, sixth day of sickness, commenced with antitoxin, and during the following forty-eight hour used 6,000 units N. Y. Board of Health preparation. In this case stenosis was so great that I felt afraid not to use any auxiliary aid, and gave kali bichrom., mercur. bin., apium virus at different times. One night I used calomel volatilization, with patient in a sheet tent. This case recovered, though prognosis was certainly doubtful at one time. On the ninth day after antitoxin was used the fully characteristic eruption appeared. Eruption has presented in about one-fourth of cases in which I have used antitoxin. I never used so many units of the antitoxin in any other case; 1,500 to 3,000 generally sufficing. Have never used any other than the New York Board of Health antitoxin. Of the remedies, apium virus has helped decidedly, though this last case reported showed arsenic symptoms at first, and that was given.

A CASE OF TYPHOID FEVER.

I was called on the evening of Oct. 13th, 1897, to see M. L., aet. fifteen years. Had been ailing for a few days; not complaining much, though. Temp. was 101 degrees. Case ran a very mild course throughout, but very typical, having every feature of the disease. Gradully ascending temp., few bronchial rales, nose-bleed, ileo-caecal tympanites, sordes, apathy, and the eruption, diarrhoea, though mild. I have generally had my patients about live on milk about all through a typhoid attack until convalescence. This patient had a decided aversion to milk, and as a substitute we gave koumyss, which was the only nourishment for about two and a half weeks, when we began with gruels. No solid food until the fourth week.

During the whole ulceration period I gave 2½ gr. salol in tablet form every few hours, with view to keeping the intestinal tract in an antiseptic condition. The tablet form was chosen in order that the drug might reach into the intestines before being dissolved, which result was accomplished, as some passed with the stools in only a partially dissolved condition.

The highest temp. was 104¼. One dose only of an antipyretic was used. Sponge bathing was most assiduously attended to and sufficed very nicely in keeping the patient very comfortable. We gave her plenty of water, urging her to take more than she cared for at times. On the fifth day a slide with blood from the finger tip was submitted to the Board of Health. The report was negative, but it also said that the amount of blood was very small, and scarcely afforded fair opportunity for a good test. I did not trouble the patient to submit to having another specimen sent, nor serum either. I did have Dr. Alfred K. Hills see the patient with me later, and both concluded that she was as perfect a picture of tpyhoid as could be. I believe that the Vidal and other tests for typhoid are not succeeding as well as was hoped.

COCCYODINIA.

Mrs. W., whom I attended when she formerly lived in this city, but who moved to Pittsburg several years ago, consulted me while visiting here about a year ago. For between two and three years she had suffered from a very painful coccyodinia, the result of a fall. Her physician had told her that he could do no more for her with medicines.

and that he must perform an operation. The pain was excruciating. On this apparently disproportionate severity of the pain to the cause—fall was not severe—I prescribed Hypericum 3x. She began to improve immediately; was about well in a couple of weeks. I saw her about a month ago, which was 11 months after her treatment, and she had remained well.

INTERSTITIAL NEPHRITIS.

We may have a patient who complains of many gastro-intestinal symptoms, has headaches, languor, sensitive to changes of atmospheric conditions, has many nervous symptoms, and for a while we vacillate in our diagnosis. We treat the patient symptomatically, and advise some changes in diet. After awhile we think, notwithstanding there is no dropsy, not even the swelling in loose cellular tissue under the eyes, nor other prominent symptoms, that perhaps the kidneys may be at fault. Upon questioning, we find that the patient passes sufficient urine; if anything, a little over the normal. We examine the urine, and either find no albumen or so little that we let it pass as unimportant; no sugar. We may submit the urine sediment to microscopical examination, with mainly negative results; either no casts or so very occasional ones that they are considered not serious. Then we may assure the patient and friends that the kidneys are not diseased; there is no albumen, no sugar, no casts, and we feel sure that his condition will soon improve. In any case that you cannot positively diagnose any other complaint, and you find a full hard pulse, urine passed in considerable quantity at night, do not too hastily exclude nephritis. Examine the heart closely; find if there be even a small amount of hypertrophy; see if apex beat extend to or beyond vertical nipple line. Is area of dullness at all increased? If there be any sign of hypertrophy, feel that you have a guide-post directing you to retrace your examination of the urine, and even not to rest with one or two examinations, but to repeat them at not long intervals, and you may find evidence at one time that you did not at another; and it may save you later from explaining how your friend, the oculist, with the ophthalmoscope, could diagnose Bright's disease when you had said that the kidneys were not affected. Or, if there arise no occasion for the oculist to be consulted, you may prevent yourself being surprised by cerebral hemorrhage, uraemic coma or convulsions, or at the last, when the heart cannot keep up the work longer, and dilatation comes on, the apparently sudden onset of albuminuria, dropsy, scanty urine, in fact, the usual symptoms of the parenchymatous form, but that only comes late in the interstitial variety, or the sclerosed kidney. Parenchymatous nephritis is generally easily diagnosed, the interstitial is insidious and difficult to. I had one patient who has had at different times during the past two years about twenty (20) different attacks of uraemia, slightly convulsive at first, then comatose anywhere from a few hours to two or three days. Veratrum virid. has helped very much. Of late nitro-glycerine, 1-400 grain, four times daily, given right along, has apparently served to make the interval between the attack much longer than it has been for a long while.

GEO. E. TYTLER, M.D.

MEETING OF THE PHILADELPHIA PATHOLOGICAL SOCIETY.

At the last meeting of the Philadelphia Pathological Society the subject of Cardio Vascular System occupied the attention of the Society during the evening.

Dr. William C. E. Hughes opened the discussion by reading a paper on the different forms of peric rditis. His experience had taught him that tuberculous pericarditis was more common than it was thought to be.

Doctors Jopson, Shoemaker, Musser, and Meigs all read papers bearing on the subject. The morbid specimens exhibited by Doctors Packard and Musser aided materially in more forcibly presenting the subject before the Society.

Dr. Alfred Stengel spoke of the flood conditions that existed in valvular and heart lesions, and showed how a local plethora may be mistaken for a real anemia, owing to a stagnation of the blood in the capillaries of the fingers or toes.

Drs. Hockten and Herrick, of Chicago, also took part in the discussion. Dr. Hockten spoke of the "spores," which were often found in the heart muscle. Dr. Meigs attributed these spores to the large distribution of blood vessels, which radiated in many directions. He said he had proved the existence of these spores in a series of over fifty cases.

CORRESPONDENCE.

THE OIL TREATMENT IN APPENDICITIS.

Editors of THE MEDICAL TIMES:

In Dr. Terry's rejoinder to my challenge he admits that he does not know what became of the forty-nine cases that were thought to have been cured of appendicitis by the oil-treatment. He says on page 27 of the January TIMES: "As my cases are the accumulation of five years' observation, it would be a most difficult matter to trace out each one, owing to the change of residence of some, to the fact that others have been strangers to me, and to the consultation element entering into the proposition with physicians whose patients are located over a widely scattered territory. These are precisely the conditions that have to be met by surgeons in working up post operative data, and the statistics are readily obtainable by men who are skilled in that sort of work. If Dr. Terry wishes I will put my own men at work upon the report, or I will bear the expense of employment of other men whom Dr. Terry would prefer to employ. There is no personal element at all in this desire of mine to know what became of the cases. It is simply a plain matter of record for the use of physicians, who need to be guided properly, because human life is actually at stake in their decisions.

Since the publication of my challenge I have learned from unsolicited Utica correspondence of three oil-cured patients, who later subjected themselves to operation, and of a fourth who is believed to be carrying a chronic abscess. From my knowledge of the subject of appendicitis, I estimate that if the observations quoted cover five years of experience, about eight of the forty-nine patients have already died of appendicitis, and a number have been operated upon. It is far from my intention to intimate that Dr. Terry knows that there was this much of interesting subsequent history, but the classified data within our reach shows pretty accurately the proportion of cases in which concretions, mucous inclusions, tubercular foci, entozoa and chronic abscesses remain in patients who have been "cured" of appendicitis by medical means. Because of Dr. Terry's prominence, all eyes are now turned toward his statistics. A report of the subsequent history of the cases, for use in a scientific way, should include a statement of the number of deaths, number of operations, number of recurrences, interval palpation findings, interval condition of general health, and length of time of observation of each case. It is known that the surgical death rate in acute and chronic appendicitis cases, without abscess, is a fraction of one per cent. at the hands of several American surgeons, and it is believed from classified data that the eventual medical death rate in appendicitis cannot be much less than twenty-five per cent., even with such excellent treatment as that advocated by Dr. Terry. The loss of time and the sufferings are also much less under proper surgical treatment than under the best medical treatment. In the next edition of my "Lectures" I shall publish letters from ten consecutive patients who were operated upon, and who had had various kinds of medical treatment. Every one of the ten patients states that surgical treatment caused less suffering than medical treatment. Most physicians and most patients do not know what our beautiful new surgery is like. They dread surgery more than they dread the bacteria that cause the trouble in appendicitis, because they do not know the history of bacteria so well as they know the traditions of old-time surgery. The matter of expense to the patient is not to be discussed, for while we all feel justified in sometimes charging several thousand dollars for an artistic life-saving operation that requires special skill, every physician presumably knows where he can have his appendicitis patient operated upon for nothing, if they are poor.

The argument that the appendix should be spared because it may have some undiscovered use is fallacious, be-

cause in most of the cases that a responsible surgeon is willing to operate upon the appendix is already rendered useless by the ravages of bacteria upon its tissues.

The idea that there is difficulty in making the diagnosis of appendicitis is not in the experience of men who have much to do with the disease. It is no more difficult than making diagnoses of broken legs.

Dr. Terry declines to accept the conditions of my wager, but for humanity's sake, I ask him to give up his other work long enough to tell us what became of his forty-nine cases, and to spare no expense in getting the statistics, because the happiness of so many American homes depends upon the result of his investigation.

One reason why Dr. Terry is likely to be misled about the later history of his cases is because patients who have been told that they are cured are so disappointed at recurrence of symptoms, that they go to some other physician. I have operated upon a number of such patients, who had such an esteem for the first physician in the case that they begged me and the second physician not to let the first physician know, "because he would be so disappointed." A very touching tribute from the patient to the physician.

ROBERT T. MORRIS.

DR. TERRY'S SECOND REJOINDER.

Dr. Robert T. Morris is truly magnanimous when he offers to place his men upon my report of cases, or when he offers to defray the expenses for such an investigation. I will not in any way misconstrue what he considers a sincere proposition, or desire to obtain the absolute facts in regard to my cases. I shall take exception to any suggestion he may make, however, in regard to my methods of diagnosis or in regard to the diagnosis of any case. If there are cases which I have diagnosed as appendicitis, which are not, I, in turn, will challenge the doctor, using his method for emphasis, to state if he has not opened the abdomen for appendicitis at the Post-Graduate School clinic, and found a healthy appendix on more than one occasion?

In regard to "three oil-cured patients who lately subjected themselves to operation," in Utica, which came to the doctor's notice from unsolicited Utica correspondence, I ask for the publication of the cases if *I treated them at any time.* I certainly do not know who they are. I would also like the name of the fourth, "believed to be carrying an abscess."

There are surgeons, it is known, who can diagnose cases at a distance better than those present. We have them in Utica, and I presume in New York City. It would not be just that the doctor should hold me responsible for the treatment of cases of appendicitis by the so-called oil treatment, when such treatment has been conducted by other physicians and surgeons than myself.

Dr. J. D. Emmet, the editor of the *American Gynæcological and Obstetrical Journal* for February, has this to say in reference to diagnosis of appendicitis and the operative procedure: "In the history of no fad has more confusion existed in the surgical mind as to the practical definition of terms, as to differential diagnosis before operation nor more blind insistence upon one method of treatment being always pursued in all cases.

"Does the undeniably life-saving results in many cases of appendiotomy excuse the absurdity of the dictum that in all cases of sudden pain in the right inguinal region, temperature and tenderness at 'McBurney's spot,' the patient must be subjected to the serious danger of laparotomy without an hour's unnecessary delay? In what do these symptoms differ from simple colic at the head of the colon, from fecal obstruction in the same region, from gaseous distention of the bowels, from a functional cause or from a perityphilitis? And what becomes of the McBurney spot, when a previous perityphilitis has existed with the appendix lying, perhaps, behind the head of the colon, a not infrequent pathological result of a previous localized peritonitis in this region?"

We do not know at this moment of any surgeons, even distinguished surgeons, who claim that only a fraction of one per cent. of mortality follow the operative procedure in simple acute and chronic recurrent appendicitis cases. Dr. Nicholas Senn, and no greater surgeon lives than he, has stated that "in relapsing cases the mortality should not exceed two per cent., and in the acute form it is probably not less than ten per cent., and this opinion is based on an experience of several hundred cases." We know the "American Text-Book of Surgery," which represents the consensus of opinion of certainly ten of the ablest surgeons in this country, such as Keen, Senn, Pilcher, Dennis, Stimson, J. Williams White, and others, gives the mortality as one out of seven or eight. I do not believe there is any truth in the statement in regard to the eventual death rate of about twenty-five per cent. in appendicitis, given by Dr. Morris, nor that it is not absolutely cured under medical treatment.

There are country physicians all over the United States who have lived in their respective locations for ten or twenty years, and some of these physicians have treated many cases during their experience, and have never lost a case by medical treatment. Letters have been received by me of this character within the past four weeks. If these cases were not cured and only the "subsidence of symptoms," as the doctor is determined that medical results shall be, then nothing but the resurrection itself will satisfy him as to the interval of rest from the recurrence.

As to the ten cases the doctor intends to bring forward, supported by the affidavits of the patients themselves, that the operative procedure is less painful than the medical treatment, I have this to say: Under the treatment, which the doctor himself admits is the best medical treatment he has ever seen described, patients in acute appendicitis are relieved just about as soon as the treatment is well under headway, and this should be within two hours. What is meant by this is a rapid subsidence of the symptoms incident to appendicitis, and this treatment is without morphine or any anodyne, except the anodyne of reason, by which impacted bowels and congested tissues are relieved from pressure and restored to a normal condition, which you do not get in the operative procedure.

As to the after results between the medical and the "artistic life saving operation," there is no comparison, for just so soon as you enter the body with the knife the chances are that your patient will ever be conscious of a sensation at the seat of its entrance. The severed nerves usually after uniting leave symptoms the character of which is soreness or even absolute pain, which continues often for months and at times for years.

A chronic seven-month's recurring case, of which I shall report more specifically later, and which was cured within thirty days, had pains at various times as I have stated patients might have, in my previous rejoinder. He was told by physicians and neighbors that unless he was operated upon he would never be free from sensitiveness and pain in his side. Before considering the question of operation seriously, he secured the names of those who had been operated upon in Utica and vicinity and visited them. He then came to me with this report, that the persons who had been operated upon had more pain than he had, and he was, therefore, content to await the lapse of time. This case was treated one year ago, and although he had recurrent appendicitis for seven months before I saw him, it is not strange that he should have had the first six months after the oil treatment periods of sensitiveness, owing to taking cold, or improper diet. He has had *no pain nor soreness for the last six months over the appendix, and is absolutely free from it at the present time, and considers himself perfectly well.*

Wharton and Curtis, in their excellent work "The Practice of Surgery," (1898) state that hernia "is very common after operations for appendicitis," etc., and recommend that "the patients should wear an abdominal belt, . . . for at least a year." I can readily appreciate this statement in view of the fact that a young man in Utica is now annoyed by a large hernia, following the two operations which he has had for appendicitis, each of which was to *cure him.*

The doctor claims that physicians and patients "do not know what our beautiful new surgery is like." I should say that it would be reasonable to suppose that inasmuch as there are a number of post-graduate schools well attended in this country by practitioners in active practice, that these men would be fully equipped for duty and familiar with the latest technique of the operative procedure. Surgeons are giving now more attention to the *causes leading up to appendicitis* than ever before, and there is less activity among the surgeons to operate at the beginning of appendicitis than soon after the operative procedure for appendicitis was instituted as a fad. It is a pleasure to note in an editorial by Dr. Shrady in the *Medical*

Record of February 5th, that he states that the oil-treatment "is simplicity itself," and he wittingly remarks that "while Dr. Terry was injuring the business of the surgeons in New York State, Dr. Owen F. Paget was injuring that of the undertakers in Western Australia by means of the same gentle remedy." Dr. Paget, in the *Lancet* of Nov. 27, 1897, states he had treated over one hundred cases of typhoid fever, without the loss of a case, by the use of salad oil.

Dr. Morris, in line with many other surgeons, gives one the impression that bacteria are one of the greatest sources of appendicitis, which I most unhesitatingly consider absurd, for it is believed that every man, woman, and child has more or less bacteria in his intestines, and yet most of them are free from appendicitis. Most of the foreign substances found in the appendix are dried mucus and fecal matter in the form of coproliths, etc., and therefore it is thought if the bowels are kept regularly open such conditions will not exist and the appendix will not be irritated by these foreign dried substances.

We shall now proceed to report in as concise a manner as possible cases included in the report under the head of the forty-nine cases referred to by Dr. Morris. It will also be my pleasure to include other cases and reports from other surgeons who have been carrying out this system of treatment for some time.

CASE 1.

The little son of Charles Randolph, a barber, residing at 50 Broadway, New York City, Tower Building. About four years ago the boy was taken with appendicitis and the surgeon in attendance said that nothing but the operative procedure would relieve him, and the father was requested to take him to a hospital, but his attention being called to an article in the New York *Sun* in reference to the oil treatment for appendicitis, he wrote me asking if I could save his child by the oil-treatment, describing his symptoms. I gave him my best advice and soon after received the information that his boy was perfectly well, and expressed his gratitude. Since this discussion has come up in the papers he has written me and requested that Dr. Morris should visit him to see for himself the good results from the oil treatment.

CASE 2.

Two years ago Rev. Newton W. Cadwell, of Westfield, N. J., called on me in Utica, stating that he had seen Dr. McBurney twice in regard to chronic recurrent appendicitis, and he stated that nothing but an operation would cure him. I gave him the usual instructions in reference to diet and the internal administration of the oil, and saw him once in New York City later, at the Waldorf Hotel. Subsequently I received the information from him that he was absolutely well. On March the 4th of this year I received a letter from him containing the following unsolicited statement: "I have noticed many of your discussions upon this subject with eminent physicians and surgeons, and I *stand ready to endorse your treatment at any time.*"

CASE 3.

Boy nine years of age was attacked with appendicitis, with the usual symptoms, in the right ileo caecal region, of pain, colicky in character, elevation of temperature and rapid pulse, tongue white, and some nausea, with bowels constipated. He had been sick for three days when I saw him. The treatment was immediately applied of poultices, cathartics, followed by oil, aconite and bryonia internally, with an occasional dose of phenacetine. He made a rapid recovery and has remained well to the present time. This case occurred in the fall of 1893.

CASE 4.

Mrs. H., age 55. She was taken with a severe neuralgia of the stomach in the summer of 1895, and called a physician, who gave her a hypodermic of morphia. He attended her for three days and was obliged to repeat this treatment on each occasion, as the pain returned after the morphia had lost its effect. The patient became discontented and as I had previously attended her, I was called in to take the case. I asked if there was pain in the abdomen. She said there was not. Pressure over the ileo-caecal region caused her intense pain, however. She was at that time very much nauseated, with a temperature of 101. I gave no anodyne, but applied flaxseed poultices, and gave cathartics followed by sweet oil. In three days discharged the patient as well, and she has had no recurrence.

CASE 5.

Prof. C. took a header from a bicycle on March the 12th, 1894. Doctor called next day and found the patient suffering from pain and tenderness at the McBurney point, with slight rise of temperature. I was called three days later in consultation. He was given calomel and soda and enemas of oil, followed by water and soda. Poultices were also applied. Internally he was given bryonia gelsemium and belladonna as indicated. Bowels were moved on the 18th of March, after which he made a rapid recovery, resuming his duties on the first of April. He had a return of the trouble December 11, 1896. Was obliged to leave school on account of pain. The doctor who attended him states that there was a bunch as large as a hen's egg in his right side, temperature 104½. Began the oil-treatment immediately. During Sunday, December 13th, pain and tenderness all disappeared. On the 21st he and his wife went to Cortland. He has remained perfectly well ever since.

CASE 6.

Mrs. Y.; age 58. She had been under treatment for pain in bowels for three days. Was attended by physician during this time. The patient getting worse even under the hypodermic treatment of morphia, it was decided to operate. It was also thought that she had an obstruction. Her nephew objected to an operation; later she came under my care and was taken to the hospital. She was very much exhausted, face blue, tongue dry, stiff and swollen. She vomited a dark brown fluid. There was pain over the abdomen, and she was exceedingly sensitive to touch. There was frequent vomiting and retching; pain in stomach and cramps in legs; everything ejected taken by mouth. Her temperature ranged from 98 to 101½. Pulse, 100, varying. This patient remained in the hospital for two weeks, was discharged cured and has remained so.

CASE 7.

Mr. H., Rome, N. Y.; age 55. He had been sick with pain in abdomen for one week. He came to consult me in reference to an enlargement over the McBurney point. He was taken to the hospital and placed under the oil treatment. At this time his temperature was 100, according to the hospital records. He was also given enemas with oil, and flaxseed poultices were used. He returned to Rome in one week and has remained well.

CASE 8.

This patient was a man from Waterville, N. Y., who had been suffering with chronic recurrent appendicitis for eleven months, and was unable to work, as any exercise seemed to bring on the pain. He had consulted surgeons, who advised an operation, but he was fearful he would die. Delaying until he had a severe attack one day, he came into the hospital, January 4, 1897. He was suffering so intensely and was so exhausted that it was necessary to give him strychnia, as it was feared he would collapse under the exhaustion. His temperature was 103½, pulse 130, soon running up to 143, and it was small, rapid and intermittent. His abdomen was intensely sensitive and could scarcely be touched. It was difficult to do anything with him, on account of the agonizing pains which he claimed started from the right side. He was nauseated and vomited frequently. Mouth and tongue parched. This was the most aggravated case we had had at the hospital. He was placed under the regular treatment and began slowly to improve, but his temperature remained high for many days. For instance, it varied from 99½ to 103½ for sixteen days, varying each day about two degrees. The pulse rate during this time varied each day from 110 to 130. Although I urged an operation after the immediate symptoms had subsided, he obstinately refused, and I was compelled to continue the treatment, and at the expiration of thirty days he was discharged well. He is absolutely free from sensitiveness over the region of the McBurney point and has continued perfectly well to the present time.

CASE 9.

Mr. D.; age 27. He came under observation at the hospital, December 26, 1896. He had chronic recurrent appendicitis. On the evening I was called there was a consultation of four surgeons and physicians. The result of the consultation was that nothing but an immediate operation would save the man's life. The family objected to an operation. I was requested to take the case. He was taken to the hospital that evening. The temperature was

101 and varied for the next eighteen days from 99 to 102. With this condition existing I urged the operative procedure, which was refused. He stated he would take his chances. The sweet oil, calomel and flaxseed poultices and colon enemas were persevered with and in thirty days he left the hospital slightly sensitive over the ileo caecal region, but feeling perfectly well. His temperature was then 99, but within a week became normal under remedies, the sensitiveness gradually disappearing. He had three slight recurrences at various intervals during the first six months, which, as I have stated before, patients are liable to have. Since then he has had none and considers himself absolutely well.

CASE 10.

Miss B., age 27. She came to the city of Utica, about 10 o'clock in the evening of October 18, 1897. She was taken ill, and living in a suburban town, she went to a friend's house, being unable to get home. I saw her at midnight. Her suffering was so great that her screams could be heard in the street. She was given an ounce of sweet oil and half an ounce of castor oil; flaxseed poultices were applied, and an enema of oil followed by soapsuds. At 2 a. m. she was so comfortable I returned to my home. She was taken to the hospital the next morning and remained there for two weeks, when she left cured. She is not sensitive to the touch and feels well and has had no recurrence.

Further reports will follow. M. O. TERRY.

[**Ed. Note.**—Prof. H. A. Hare, of Philadelphia, recently read a paper before the County Medical Society of that city on "Some Instructive Cases of Appendicitis," which may be found *in extenso* in the Philadelphia *Polyclinic* of March 19, 1898. Prof. Hare's deductions, it seems to us, state the case fairly and conclusively, and accord with the experience of many others. In closing his able paper he says: "These cases, which are taken as types from a larger series, illustrate the fact that the physician takes a grave responsibility if he urges an operation, perhaps as grave as if he opposes it; that he cannot afford to leave a decision as to the wisdom of operation entirely to his surgical colleague, and finally that * *cases of appendicitis often get well and remain well*, or in other words, *all cases do not need* an operation either for immediate relief or for the prevention of other attacks. On the other hand there are cases which are fulminating in character, that an hour's delay of operation is dangerous, and I am inclined to believe that the cases of early fixations of the body and belly muscles, and without much temperature disturbance, need operation more than those in which the pain is greater, more continuous, and more severe on pressure."—EDS]

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Citrate of Silver.—Prof. Credé, of Dresden (*Deut. Med. Wock.*) has succeeded in obtaining a metallic silver preparation, which is permanently soluble both in water and in albuminous fluids. When this preparation is inuncted in the form of a salve for from 15 to 30 minutes, it gets into the lymphatic channels and circulates dissolved in the body. In sterile lymph and sterile blood it remains in the condition of metallic silver. In the presence of pathogenic germs or of toxines it enters into some as yet unknown combinations, and acts either as a bactericide or as an antitoxic agent. The use of the silver preparation causes no local changes. Credé and the physicians associated with him treated over 100 cases affected with the most varied septic diseases with the remedy. The first inunction was made in the evening, and the second upon the following morning, and no other measures were employed during this time. The amount of the salve used in the adult was as a rule three grams (45 grains); for boys two grams (30 grains), and for little children one gram (15 grains). The inunctions were practiced upon a part of the body far removed from the site of the disease. Lymphangites, phlegmons, septicaemias, phlegmonous anginas, and septic complications of scarlatina and diphtheria were treated. In all the cases a remarkably favorable effect was apparent in from five to thirty hours. The general condition improved; the fever fell within 24 hours; and rapid retrogression of the septic process set in. Almost hopeless cases rapidly improved. In cases of erysipelas the mixed septic infection got well, though the skin lesion persisted. Credé believes that the preparation is a remedy of the very greatest importance, being capable of disinfecting the entire body; and affirms that it is one that has never failed him in septic cases.

Typhoid Fever Rate Lowered by Proper Filtration of Drinking Water.—The cities which use filtered water which is largely polluted are London, Amsterdam, Rotterdam, Hayne, Berlin, Hamburg, and Duslow. The typhoid rate in each of these cities ranges from 1.8 to 2 per 10,000.

On the other hand Glasgow, which gets its crystal water supply from Loch Katrine, has a higher rate than 2 per 10,000. Lawrence, Mass., which formerly used unfiltered water, had a high rate of mortality, but since establishing an efficient filtering plant occupies a place low in the list.

For the year 1896, the city of Philadelphia, which used unfiltered water, ranked thirteenth in order of unhealthfulness from typhoid, its rate being 7.4 per 10,000.

The cities which have a higher rate than this are: Birmingham, Fla. (highest in the world); Denver, Allegheny, Pittsburg, Lawrence, Newark, Charleston, Washington, Lowell, Jersey City, and Louisville. It now seems that the City Council of Philadelphia are determined that their city shall go head for the year 1897.

Creosotal is a thick oleaginous substance containing over 90 per cent. of pure creosote, and free from the nauseous odor and burning taste of the plain drug. These latter qualities, as well as other advantages which have been thoroughly detailed elsewhere*, were the reason that determined the use of the remedy so freely in the place of the older creosote preparations. The disagreeable by-effects incidental to treatment by these latter, more especially the marked disturbance of the gastro-intestinal canal, the great loss of appetite, with its consequent deterioration of the general condition, are, according to the reports of various authorities upon the subject, entirely absent in Creosotal.

The usual dosage was: In the beginning five drops of pure Creosotal three times daily, increased daily by the addition of three drops to each dose until 25 drops were taken thrice daily. At this height it was maintained for from one to four weeks; in isolated cases for several months. Then the dose was gradually diminished down to 10 drops three times daily by similar stages, and then increased in the same way up to the maximum dose again, etc.

Xeroform is a new, cheap and pleasant dry application in eczema, ulcerations, burns, chancres, in fact, in all cases where iodoform is generally used, less the disagreeable odor.

OBITUARY.

PROF. THEOPHILUS PARVIN, of the Jefferson Medical College, died at his residence in Philadelphia, Feb. 1., at the age of sixty-nine years. Professor Parvin was the author of an excellent work on the Science and Art of Obstetrics, and also the editor of Winkle's work on the Diseases of Women.

THE death of Sir Richard Quain, March 13, in London, after a long illness, is announced, at the age of eighty-two years. Sir Richard was the author of many medical writings, but the one which brought his name most prominently before the public was a dictionary of medicine which was first published in 1882 and passed through several editions. He had much to do with the last two editions of the British Pharmacopœia, and was for a long period physician to the Queen.

* Italics are our own.

* Dr. Nordt, Inaugural Dissertation, "Concerning Creosotal," Berlin, 1897.

MISCELLANY.

—To remove blood stains apply acetic or tartaric acid.

—Rhubarb, santonine and many other substances give the same reaction as sugar.

—A woman at No-Name Pond, Me., the *Boston Herald* says, has recently given birth to her twenty-fifth son.

—*Salophene* has proved very efficient in both acute and chronic rheumatism.

—*Dysmenorrhœa.*—Tincture hydrastis and tincture viburnum prunifolium equal parts. Ten drops every two hours.

—The Lyon *Medical* says that washing the hands with orange juice water after using iodoform dispels the unpleasant smell.

—To remove warts painlessly and with avoidance of scars apply a supersaturated solution of potassium bichromate once daily.

—A celebrated physician on being asked how a patient was, said, "He is at death's door, and I am afraid I shall not be able to pull him through."

—Dr. Jacobi says that cows' milk should never be given to infants without a little addition of salt to prevent the solid coagulation of the milk.

—The disease inspector of Ontario, Canada, shows by statistics of a marked decrease in the consumption of alcoholic liquors or that province.

—*Impotence.*—Dilute hypophosphoric acid, one ounce; strych, sulph, 45-100. Three or four drops in a teaspoon of fluid extract coca before each meal.

—Bienwald has arrested the hemorrhage of a small wound on the face of a hemophilic by the application of freshly drawn blood from a healthy woman.

—*The American Medico Surgical Bulletin* will hereafter be edited by Dr. Horatio C. Wood, with the co-operation of its former editor, Dr. Eccles, as managing editor.

—*Blepharitis.*—M. Fage says free the lids from crusts with a warm solution of boric acid or ichthyol. Then apply picric acid in solution of from five to ten parts to the thousand; repeat every second day.

—Two vacancies in the surgical staff of the police force were in such demand that eighty-two physicians took the civil service examination, by no means an easy one, to be able to apply for an appointment.

—The reply of a clairvoyant to a gentleman who had sent a lock of his hair to facilitate a correct diagnosis of his disease was: "You are suffering from an ovarian tumor and must be operated upon immediately."

—Dr. J. Lewis Smith recommends for the constipation of milk fed children, cod liver oil and the lactophosphate of lime, as enabling the organism to resume the assimilation of fats, in which it had before failed.

—Glass, prepared by a new patented process, which renders it soft and malleable, is now used by dentists to fill the cavities in teeth. It is said that it answers the purpose admirably and is less conspicuous than gold.

—At the session of the Academie des Sciences, held at Paris, Dec. 13, 1897, the Cuvier prize of 1,500 francs was awarded to Prof. O. C. Marsh, of Yale University. This prize is awarded every three years for the most remarkable work either on the animal kingdom or on geology.

—The Mount Sinai Hospital has outgrown its present accommodations in Lexington Avenue, and has purchased the block on Fifth Avenue between One Hundred and One Hundred and First Street, except the Madison Avenue front, upon which will be erected a new hospital building upon the most modern plan.

—Auger (*Sem. Med.*, 1895) employs olive oil in the treatment of bruises. He applies the oil with great freedom and rubs it in with his fingers, afterwards covering the bruised area with materials saturated with oil. He states that this treatment immediately relieves the pain and enables superficial wounds to heal rapidly.

—Very stout women (says the *Health Magazine*) have suddenly become unconscious from long-continued constipation, the condition resembling apoplexy. In one such case, by a large enema of soap, water and castor oil, a copious evacuation was procured, with speedy return to consciousness.

—The oldest voter in our recent city election was Prof. Emanuel Schwarf, who celebrated his 101st birthday on the 14th of December. This was the fifty-third time he had voted in America, where he came in 1840. He was an advocate in Germany, but in New York has kept a school, which he did not relinquish until he was ninety-six.

—A company has been organized to furnish cheap hot water to the poor of London, by utilizing the waste heat of the street gas lamps. The hot water may be drawn off by placing a halfpenny in a slot and turning a valve. It is proposed to extend the scheme so that eventually the man in the street may provide himself with a cup of tea, coffee, cocoa, or even beef extract.

—A Philadelphia judge recently refused to grant a charter to a "Church of Christ Scientist," on the ground that it would conflict with the act regulating the practice of medicine in the state, since, "Besides a church, there is to be established a system for the treatment of disease, to be carried into effect by persons trained for this purpose, who may receive compensation for their services."

—The Norwegian Parliament has unanimously decided to appoint Dr. Nansen to a chair of zoology in the University of Christiania. The duties of the chair will, it is understood, be just what the distinguished incumbent chooses to make them, and they are not likely to interfere with any further explorations of the Arctic or Antarctic regions, which he may be disposed to undertake.

—An aseptic barber shop, probably the first in America, has been established by Emile Caye, at the Carrolton Hotel, Baltimore, Md. Everything about the shop is sterilized. The shaving cups, combs, brushes and razor handles are made of aluminum, which is the metal that best stands sterilization. The hand and arms of the barber, as well as the head and face of the customer, are also made septic.

—A curious bar was set up to the collection of a physician's bill in a case reported by Dr. Gottheil, in *New York Medical Journal* (*Gaillard's Med. Jour.*) The defense was that the adult sister of the patient, the lessee of the house and the head of the houseold, who had called in the physician, lacked six months of being twenty-one years of age, and was therefore legally a minor. The parents of the patient resided in another State, and the case was thrown out.

—Sir Joseph Tholazan, physician to the late Shah of Persia, died not long ago, and it was currently reported that he was poisoned. Having been the trusted confidant of Nasr-Ed-Din for over thirty years, he was acquainted with many court secrets, and his removal was desired on this account by the new government. His predecessor at the Persian court is stated to have been done away with in the same manner.

—It has been ascertained by careful medical observations, that certain families in St. Ourn, a village in France, enjoy absolute immunity from tuberculosis. They are "autochthonous" gardeners, of excellent habits, who intermarry among themselves, and keep apart from the immigrant laborers. These latter suffer terribly from the disease. It is considered probable that hygienic conditions are not the sole cause of the difference, but that, by a kind of natural selections, a race immune from tuberculosis has been developed.

—Since the beginning of the academic half-year, all students attending the chemical and physical laboratories of the University of Heidelberg, have been insured against accidents happening in the course of the lectures, of the laboratory work, and of scientific excursions. The insurance premium is paid by the Treasury of the University, and the students are charged a small sum in addition to the class fees. This step, the *Lancet* thinks, is surely deserving of imitation by other universities, and such advantages ought not to be limited to laboratory work only, for medical students run much greater risk both in the dissecting rooms and as surgical dressers, etc.

ORIGINAL ARTICLES.

CRYPTOGENIC SEPSIS.

By James T. Whittaker, M.D., LL.D., Cincinnati, O.

IT is often said that there are fashions in the medical as in the other worlds, and diagnoses are made to conform to prevailing types of disease. A century ago scurvy was considered the most common disease; a half a century ago we heard more of syphilis than of any other single affection; a quarter of a century ago everything was malaria. At the present time tuberculosis reigns supreme. But the throne is already being disputed by sepsis, which is sure to be the next occupant. These statements are sometimes met with a degree of derision. The prevailing affection is considered a convenient mantle with which to cover obscure or superficially observed phenomena. But it must be admitted that there was truth in the prevalence of these individual affections at these various periods. The diseases prevailed because of the conditions of life at the time, and changing types have followed with varying surroundings. For instance, a century or two ago fresh food was not so common as now. Especially was this true of vegetable food, which could be obtained only during a limited period of the year. There was in those days no means of preservation of food. Moreover, there was no rapid transportation. The hot bed, the ice house, the express train supply us with fresh vegetables the year round, so that scurvy is almost unknown, even upon ships.

Syphilis is still with us, but in much modified form. It is needless to even mention the reason of this change on this occasion. What we see now of syphilis is mainly the remote damage, sclerotic change in the nervous system in the form of dementia paralytica, locomotor ataxia, and in the vascular system, arterio-sclerosis, aneurism, etc.

Malaria belonged to the period of swamp life. As cities were built, sewers dug, roads constructed, malaria began to disappear. Anyhow, since the diagnosis of malaria requires the demonstration of the plasmodium, malaria has become very much circumscribed. Like the psora, which disappeared when the itch insect was demonstrated, it is no longer fashionable to be affected with malaria. Even the people no longer complain of being malarious; they take refuge rather under a more obscure affection and feel rheumatic, but they do still have a "bad cold."

Tuberculosis is ubiquitous, but the day of it is doomed. The diagnosis here, too, is not accepted without the demonstration of the bacillus, or where that is impossible, without the development of reaction under the use of tuberculin. Moreover, it is admitted that man does not offer a fertile soil for the development of tuberculosis. The disease is preventable if not entirely controllable. Finally, the main evils of tuberculosis are not caused by the tubercle bacillus, but by the associate or mixed infections, chiefly by sepsis. What is true of tuberculosis is true also of many other affections. They get their gravity from complication with sepsis. The triumphs of modern surgery and obstetrics proceed directly from the prevention of sepsis. The immediate future of medicine lies in this direction.

There is with sepsis as with everything confusion in definition. The terms pyemia, septicemia, sepsis, septico-pyemia are variously employed by different authors. The fact is, there is no longer support for the different terms. Pyemia was the term first employed. It meant, literally, pus in the blood. It was a useful term because it expressed a poisoning of the blood by pus and connected this poisoning with a pus center. So distinct was this connection that the people understood it in the common term "blood poisoning." But the mere presence of pus in the blood does not necessarily produce blood poisoning. In one sense there is always pus in the blood, that is, there are white blood corpuscles, leucocytes, and these corpuscles accumulate in leucocytosis to constitute a protective process. The leucocytes actually form a mantle about infectious matter which they seclude in the tissues mechanically, while they exude antitoxins chemically. Besides, pus may be produced by many causes. Some pus is aseptic. Janowski produced aseptic pus by the injection of metallic mercury, 0.5 to 0.7 under the skin of dogs and rabbits; also by turpentine, croton oil, creolin, the last pure or diluted in alcohol; also by nitrate of silver in 5 per cent. solution. It is only the pus which is produced by parasites that causes poisoning in the blood.

Pyemia is now generally understood to mean infection of the blood as indicated by multiple metastases, in the absence of any central depot of suppuration; whereas, septicemia is used to express the infection of the blood in which there is a decided depot in the absence of demonstrable metastastes. But it is plain to see that these are distinctions without much difference. Both depots and metastases may exist in the body and be undiscovered. The term pyemia having served its purpose should be retired altogether. Lines may be drawn between septic intoxication and septic infection, understanding by intoxication poisoning from the absorption of chemic matters, ptomaines, toxins; and by infection, poisoning by the direct penetration of bacteria. But in practice these various poisonings are so commingled as to be inseparable in most cases.

Modern medicine, which is based upon etiology, prescribes that parentage alone should give the name to a disease. All the symptoms which have been grouped under the terms pyemia, sepsis, septicemia, etc., are produced by the same cause, to-wit, by the pyogenic micro-organisms. These pyogenic micro-organisms are the streptococcus pyogenes, staphylococcus pyogenes aureus, staphylococcus albus, and three other forms, citreus, cereus and flavus. The diplococcus and gonococcus are also pyogenic micro-organisms. Some of these micro-organisms are associated with special diseases. Thus the diplococcus with pneumonia, meningitis and inflammations of other serous membranes; the gonococcus with

gonorrhea. But any of them may produce the signs of sepsis. The streptococcus pyogenes and the staphylococcus pyogenes aureus take the first place in frequency of occurrence virulence of toxins and malignancy of symptoms. It is established that in all grave septic infections of the puerperal bed, the streptococcus plays the chief role; the staphylococcus producing only lighter forms. Garre declares it to be established at the present time; also that the great majority of acute inflammations of bone are caused by the staphylococcus, while exceptional cases are produced by the streptococcus, pneumococcus and other micro-organisms. It would much simplify matters to retain the term septicemia to express the whole train of symptoms caused by the infection of the blood with pyogenic micro-organisms, whether bodily as by bacteria, or chemically as by toxins.

The terms streptomycosis and staphylomycosis would seem to be more precise limitations, but they lose precision because of the limitations of our knowledge regarding varieties of the streptococcus, staphylococcus, etc. Moreover, the appendix "mycosis" does not adapt itself to gonococcus, diplococcus and other pyogenic micro-organisms.

The surgeon, the obstetrician, the physician, are alike interested in the study of sepsis. I may take an example from anywhere in the field of medicine. I suppose the subject that has occupied the most ground in both medicine and surgery in the past decade is that inflammation which occurs about the head of the large intestine, and which is variously described as typhlitis, perityphlitis and appendicitis. This process originates in an infection of some kind in the stagnant reservoir offered by the cecum. Sometimes this process may be or may have been specific. For instance, tuberculous sputum swallowed may find its way throughout the whole course of the intestinal tract to be brought up or come to lodge at the cecum, where it may excite inflammation with ulceration precisely as it does in the lowest part of the intestinal tract, in the rectum, to constitute a fistula. It is a rare thing to find a case of appendicitis in an individual who shows no evidence of existing or pre-existent tuberculosis. But then it may be said to be a rare thing to find an individual absolutely free of tuberculous infection in the absence of appendicitis.

The micro-organisms usually encountered in typhlitis are those which cause sepsis, and the whole picture of the process is septic.

Nearly all of the so-called catarrhal processes are septic. Appendicitis, when it is not caused by the tubercle bacillus or the typhoid bacillus, which is a very infrequent cause, or the bacterium coli, also infrequent, is produced by the streptococcus or staphylococcus which, when present in sufficient numbers to erode the tissues and cause ulcers, sometimes belong to dysentery, or in less number with more circumscribed lesion produces a simple catarrh with subsequent ulceration, stricture, deformity, etc. When a tumor has formed or abscess developed, the case is plain. But during the period of simple catarrh the diagnosis is difficult and sometimes impossible.

I recall to mind the case of a man past middle life who was treated for three weeks for typhoid fever, though the symptoms were by no means pronounced or plain, but no accurate record of the symptomatology had been kept. There was, however, throughout the whole course of the disease no evidence of any kind of pain or tenderness in the region of the cecum. Upon this point the testimony of the patient, his wife and nurse was positive. At the end of this time, with the fall of the fever, the patient got out of bed and was seized suddenly with pain in the right iliac region, where a palpable tumor developed in the course of a few days. It was a question whether there had not been a perforation from a typhoid ulcer. There was pronounced sepsis and the case seemed to necessitate at least an exploratory laparotomy. An appendix was removed which showed the signs of disease of long standing. Unfortunately this patient died of the long saturation with sepsis.

According to Ribbert, in one in every eight appendices there are obliterating processes, which represent the remains of former disease. The retention of irritant matter from occlusion of the orifice of the appendix through swelling of the mucous membrane accounts for the fitful course of the disease and the frequency of relapse. Extirpated remains always show evidence of the various stages of the affection, from a mere chronic catarrh up to perforation, strictures being present, Kuemmel says, in the great majority of cases. During the latent course of the process there may be every grade of septic infection. Very often in the entire absence of any local sign there is depression or languor, malaise, apathy, anorexia, dyspepsia, headache, hebetude. Sometimes there is only the vague distress of a "bad cold." I recall the case of a remarkably strong healthy looking man whose life was literally marred by attacks of this kind, where the only local sign of distress was occasional indigestion with depression, not enough for a precise diagnosis. This patient finally succumbed to peritonitis from sudden rupture of a diseased appendix vermiformis. There was no other evidence of disease in the body. A diseased appendix may produce general mischief without much local sign. The distribution of the lymph vessels in the glands of the vermiform appendix is exceedingly rich, and septic matter may be conveyed to the peritoneum to produce lymphangitis in the entire asbence of any suppurative process.

There are everywhere avenues of entrance to septic micro-organisms throughout the whole genital tract. The uterus itself is a vast surface freshly denuded of its protective epithelium with every parturition; the cervix and os uteri are always more or less fissured and torn; the vagina is eroded of its mucous membrane, and the vulva with the perineum is lacerated in greater or less degree. All the sound parts suffer more or less from contusion. It is universally conceded that puerperal sepsis is introduced in the manipulations and maneuvers rendered by assistants; septic hands and instruments directly convey the cause of the disease. But sometimes sepsis sets in under the most extreme precautions. These cases may be accounted for by previous introduc-

tion of sepsis matter. One of the most frequent causes of this insidious and unsuspected sepsis is gonorrhea, which may remain latent for a long time somewhere in the female genital tract, in the vagina, in the uterus, in the tubes, and be awakened into activity in the process of parturition. The streptococcus or gonococcus lying latent somewhere in the course of the genital tract is a fruitful source of the ill health of women, and the backache, languor, feeling of fatigue, incapacity, in short, the ill health of many women, expressions of toxemia, are permanently relieved in operations for the relief of salpingitis, endometritis, etc.

The analogue of the uterus in the male sex is found in the prostate gland, and many cases of slow sepsis, marked by headache, insomnia, incapacity, owe their origin to posterior urethritis and prostatitis.

The joint affections of gonorrhea are now regarded as evidence of sepsis. A great number of observers have found gonococci in the exudation of the joints, and while no one of them has established their identity with the micro-organisms of the urethra by inoculation, the presumption is highly probable. Why so many escape general infection while others are attacked with every new case, is a question of immunity and disposition. It is now believed that many cases of joint rheumatism are due to gonorrhea which has been overlooked and a false diagnosis made. Especially is this liable to be the case because the discharge remits with the appearance of the inflammation of the joints, or ceases altogether. I can recall cases where young married women have become the subjects of rheumatism shortly after treatment of the husband for gonorrhea. Koenig claims that pretty much all the cases of puerperal anchylotic rheumatism are gonorrheal in their origin.

Interesting in this connection is the case of septic pyemia reported by Durck. The patient, a woman, entered with rheumatism followed by suppurative inflammation of the right shoulder joint. The autopsy disclosed suppurative periostitis of the right scapula, pyosalpinx on the left side, ulcerative endocarditis of the aortic and mitral valve, suppurative endocarditis and pericarditis, parenchymatous and embolic septic nephritis, opaque swelling of the liver. Cultures made from the various exudations showed everywhere the staphylococcus pyogenes aureus. In the tubes was also the gonococcus. Sections of the kidney and heart wall developed the staphylococcus. General infection had evidently occurred from the gonorrheal tubes.

Curschmann showed a case of pyemia in consequence of gonorrhea, with reference to the numerous cases in the literature. Leyden and Councilman reported similar cases. Sometimes a phlebitis of the pelvic veins, especially of the prostatic plexus, is the point of departure of the septic process. It has long been known that the dangers of tuberculosis are mainly due to infection with pyogenic micro-organisms. The bacillus tuberculosis itself makes but slow and irregular advance in the tissue of the lungs. It is not uncommon to see a child infected through the throat and cervical glands in early youth and to be able to observe the slow gradual or fitful advance of the infection in the bronchial glands without any particular signs of disease. These chlidren are, however, as a rule, not in robust health. They are always ailing and always "take cold" on the slightest exposure. Finally there is more or less sudden invasion of the lungs in the fatal process of miliary tuberculosis. These cases belong, *sensu strictu*, to tuberculosis and not to sepsis. But in the much more common affection of the lungs in adolescence or in adult life, the disease becomes circumscribed and is often in the course of time walled in. The case does well, the fever subsides, there is a long period of quiescence and apparent rescue. Sometimes there is restoration to a condition of seemingly robust health. Then all at once without any exposure or any known cause, there is a sudden flaring up of the old symptoms. There is hectic fever with night sweats, and the condition is registered in the "seesaw" temperature curve. This condition is due to the sudden invasion of large extents of lung tissue with the streptococcus, and the seesaw temperature curve is always characteristic of sepsis. In fact, Koch calls this curve the "streptococcus curve." Streptoccci and staphyloccocci have been demonstrated in the lungs, in the sputum and in the blood and in most of the different organs in tuberculosis. These bacteria penetrate from the lungs into the blood current much easier than tubercle bacilli. How much an individual case rests upon them and how much upon the bacillus may not now be determined with certainty.

It is believed at the present day that rheumatism is caused by micro-organisms closely allied to if not identical with the micro-organisms of pus. Goldscheider demonstrated bacteria in the serous exudation of pleurisy, which he believed to be due to rheumatism. Upon cultivation these micro-organisms turned out to be staphylococci. Sahli developed cultures of a micro-organism from the exudation of endocarditis, which turned out to be the staphylococcus citreus. Leyden found a delicate diplococcus, which differed from the staphylococcus in that it did not grow upon the usual culture soil, but would grow only in the blood serum. This micro-organism differed as much from the diplococcus of pneumonia as from the streptococcus of pus. The low virulence of these micro-organisms, which explains the absence of suppuration in the joints in rhematism, may be an original property or may be due to attenuation.

There is evidence in favor of entrance by the throat. Busz especially noticed the frequent connection between angina and acute rheumatism. In twelve families the two affections repeatedly occurred together. Further, this observer reported fourteen cases in which an attack of acute rheumatism followed directly in the course of an angina. Bezancon found, in the deposits in a case of recurrent endocarditis after gangrene of the thigh in a woman, a streptococcus, with all the peculiarities which this author has observed in an organism removed from the coat of the tonsils in an attack of angina. Many similar cases may be found in the literature in which the cause of the angina is stated to be pyogenic staphylococci

and streptococci. These cocci of angina have but little virulence and do not produce suppuration in the joints. Sometimes an original virulence is, as stated, attenuated in the throat. There are many cases of light fever, languor, malaise, in which the sore throat may be so slight as to pass unobserved, and in which the localization in the joints is substituted by bone pains, lumbago, and other forms of muscular rhematism.

Groedel says that a large number of patients in fected with rhematism, and as a consequence with heart disease at Nauheim, maintain that the disease began with an affection of the throat. It was in the beginning of our eighth decade that the English physicians began to make similar observations. Groedel was surprised to find in how many cases he could establish this connection. He collected in a short time twenty-one such observations. Busz made his communications on the relations between angina and acute rhematism in 1894, and in the same year Roos, and in the next year Suchannek, published communications on "polyarthritis anginosa." Different authors give statistics as to this frequency, the ratio varying between 5 and 80 per cent. Fiedler, who devoted especial attention to this subject, often found the tonsils and mucosa of the pharynx diffusely swollen and reddened in the beginning of rheumatic affection. Roos goes so far as to declare that the rheumatic angina differs from other varieties, that it is marked by more severe pain in swallowing, greater redness and swelling.

Bacteriologic studies have shown that pyogenic micro-organisms, streptococci and staphylococci are found in the throat in the majority of these cases, diplococci occasionally.

There is certainly no one pyogenic micro-organism peculiar to angina. The same thing may be said of rheumatism and its consequenes, endocarditis and pleuritis. Moreover, the injection of these micro-organisms in animals produce rheumatic affection of the joints. It may be that there are differences in the micro-organisms themselves. It is certain that cases of real rheumatism are promptly controlled by the salicylates, while these drugs have but little value in the so-called rheumatoid affections. Nevertheless, Busz, Suchannek and Groedel all incline to the view that the different forms of rheumatism known commonly as rheumatoid, may not be distinctly separated from geunine joint rheumatism, and that they are all produced by the same micro-organisms of various degrees of virulence. The rheumatism which occurs in scarlet fever and diphtheria is probably due to the same cause. It was against these micro-organisms that Marmorek recommended the anti-streptococcus serum in scarlet fever, and in the use of which Baginski made his favorable report.

When the bad cold is bad enough, the patient is often said to have been seized with the grippe. Influenza itself is a different disease. It has its own special cause in the influenza bacillus and is marked by evidence of primary localization in catarrhal affection of the respiratory tract, with extreme nervous depression. The time is near at hand when the grippe will have less latitude and when the diagnosis may be declared only with the demonstration of the influenza bacillus in the sputum. It is safe to say that the majority of these cases are septic.

I am trying to reach the point that many of the lighter forms of disease which have been vaguely described as rheumatism, as malaria, as incipient tuberculosis, as grippe, as a "bad cold," are cases of light infection with septic matter, in which the micro-organisms of sepsis may be found in organs or in the blood, and that individuals, the frequent subjects of these diseases, are carrying about in them manifest or more especially concealed depots or colonies of septic micro-organisms.

Where the inundation of the blood is abundant the case is known as a manifest pyemia or septicemia, and the source is clear; where the infection is slight and the source is secreted, the condition is known as concealed sepsis. The cases of manifest sepsis have received abundant consideration. I will call attention upon this occasion to the cases of concealed sepsis. Wunderlich, one of the greatest of our pioneers, long ago mentioned these cases under the head of "spontaneous pyemia." Leube, who especially developed the subject, suggested the better term, crytogenetic sepsis. Ziemssen adopts this term and recognizes the manifest as the phanerogenic sepsis, and the concealed as the cryptogenetic sepsis. The term cryptogenic, or better cryptogenetic, is under all circumstances to be preferred to spontaneous, idiopathic or autochthonous, as the very idea of concealment stimulates the inquiry which may finally reveal the source. Of course so soon as the source is revealed the case ceases to be a cryptogenic and becomes a phanerogenic sepsis.

The term cryptogenetic sepsis is really reserved for the cases in which the source eludes detection during life. Sometimes it may be disclosed upon the post-mortem table, and such cases have found explanation in suppurating bronchial glands, mediastinal depots, prostatic abcesses, and latent endocarditic processes.

The avenue of entrance is found in any possible injury of the skin and mucosa, wounds of operations, etc. Especially interesting is the infection of the minutest lesions in the skin or mucous membrane, which may be so superficial as to show little or no hemorrhage and therefore escape observation. In this way sepsis occurs through infected needles, splinters, insect bites, injuries of the skin, fissures at the natural openings of the body, excretions and erosions in the mouth and throat, and lesions of the tonsils, etc.

Let me cite a few illustrative cases:

1. From the Ear.—Fraenkel reported a case of dermato-myosytis in a woman aged thirty-two, in consequence of chronic suppurative inflammation of the middle ear. Five months after the discharge of pus from the left ear, pains in the joints developed, with redness and swelling in the left ankle, which extended to the middle third of the leg. There was tenderness on pressure. A similar redness on the right leg now set in with swelling of the lower half of the leg. There were circumscribed red and swollen parts in the forearm, in which the skin was infiltrated, hot and tender. The spleen was swollen. The patient

succumbed to sepsis in the course of a few days. Section showed infiltration of the skin and subcutaneous tissue of the musculature with a dirty opaque fluid with hemorrhage. Microscopic investigation demonstrated numerous streptococci, the skin in the subcutaneous tissue was infiltrated with micrococci. The same author reported a second case of multiple suppurative myosytis and arthritis in consequence of acute suppurative inflammation of the middle ear.

2. From the Nose.—In a fatal case reported by Czemetschka of puerperal infection, there was developed from cultures from the expressed juice of the lungs only the diplococcus of Fraenkel-Weichselbaum. Stroke cultures upon agar plates made from pus from the valves of the heart, from the right lung and from the lymph vessels of the uterus showed likewise only colonies of the diplococcus of pneumonia. The author believed that the patient had become affected during pregnancy with the diplococcus of pneumonia, probably from the nose. In sequel there developed inflammation of the lungs, brain and heart. The fetus was affected within the uterus. Mya reported two cases of initial localization in spontaneous or cryptogenetic septico-pyemia. A feebly developed, idiotic child, aged four, was attacked with acute coryza. The discharge was muco-serous and later bloody. Three days later broncho-pnuemonia developed with albuminuria, the urine showing a number of casts and epithelium. The pulse became feebler and death occurred in eight days. The secretion of the nose showed chiefly the staphylococcus aureus and albus, both of which may, according to Baumgarten, produce a fibrinous exudation. In the kidneys and in the blood, which was examined also during life, there was found the same staphylococcus. The bronchopneumonia was produced, therefore, by the descent of the secretion from the nose. The autopsy showed further gangrenous depots in the lungs, which contained in enormous number the staphylococcus aureus and albus. This was probably the avenue of entrance into the blood.

3. From the Face.—In another case, a girl aged eight suffered from chronic tuberculosis of the intestine and advanced amyloid degeneration of the liver. A furuncle had developed on the cheek under moderate fever. Acute diffuse peritonitis set in in two days with violent signs, with dullness of the two lower lobes of the lungs, and albuminuria. The child died in twelve days with the symptoms of meningitis. The post-mortem showed that the peritonitis was not caused by the rupture of the tuberculous ulcer of the intestine, as the pus was produced by Fraenkel's diplococcus. It is probable that the child, who had passed much of its time in the wards, was affected with the pneumonia micrococcus, first in the cheek, whence it penetrated to the blood and affected the pleura and peritoneum. The fact that the diplococcus of pneumonia produces sepsis when introduced into the blood was first demonstrated in our own country by Sternberg, our present surgeon general.

4. From the Teeth.—A healthy young woman during the period of lactation was suddenly seized with chills, fever and such profuse sweats as to necessitate change of the gown every night toward morning. For some time the uterus was accused, but nothing was found wrong with it. Finally the face began to swell and it was seen that the sepsis had developed from an abscess at the root of the tooth. A dentist removed the tooth and all signs of septicemia disappeared. But the patient for a long time after was subject to rheumatic pains in the joints. This case is from the case book of the writer.

5. From the Heart.—Paulus reported two cases of septic general infection after chronic endocarditis. One was that of a woman aged twenty-seven, who had had a mitral lesion for eleven years and who, without any provoking cause, experienced a relapse of endocarditis, which ran a slow course and terminated in five months in septicemia. The staphylococcus albus was developed from the endocarditic deposits.

The second case was that of a man aged fifty, who had suffered from a heart lesion which showed no symptoms whatever, and who succumbed to sepsis, which ran its course in three days. Streptococci were found in the old valve lesions as well as in various organs. The author did not consider these case of new infection, but believed that the micro-organisms had remained quiescent in the depots of chronic inflammation and were awakened into new activity by some unknown process.

But sometimes no source of infection can be discovered. In these cases the avenue of entrance may have become subsequently closed, as in the case of lesions of the skin and mucous membrane.

The outside origin of sepsis is clearly indicated in the septicemia of the newborn. According to Epstein, septic infection of the newborn occurs, first, at the umbilicus; second, from the mucous membrane of the mouth; third, from the mucous membrane of the female genitals. It is rather the rule than the exception that by the time of the occurrence of septicemia neonatorum there remains no visible avenue of the entrance of the septic poisoning.

Where infection occurs through gland tissue, the avenue is through the orifice of the glands. Sometimes it requires a microscopic examination to demonstrate this fact.

Pfister made this point plain in a thorough study of a case of pyemia with localization in the musculature and metastatic ophthalmia. The case was that of a servant maid aged twenty-one, in whom the infection by streptococci had been made from a small wound in the hand, which had long since healed. Death occurred in the fourth week. The patient had a right sided parotitis, the accurate investigation of which revealed, first, that the dissemination of cocci and the suppurative inflammation had followed the course from the larger branches of the excretory ducts to the smaller and from these to the tissue of the glands; second, that in the still healthy gland of the other side there was already an accumulation of cocci and pus cells in the lumen of the excretory duct and its larger branches. The micro-organisms were found in diminishing number in the finer ducts, until they finally disappeared. These two facts, especially the second, furnish further sup-

port for the stomatogenous genesis of so-called metastatic parotitis.

But, even though there is no break of the surface or other solution of continuity, septic matter may be absorbed by the mucous membrane of some cavity or viscus.

Thus there may be cryptogenetic affection of the urinary apparatus. Lewin showed that most of the suppurative inflammations in the urinary passages result from micro-organisms which are introduced from without by means of a soiled catheter, but there are always cases in which a cystitis or pyelonephritis breaks out in the absence of any possible penetration of pus excitors. The avenue of entrance was from the intestine, and it was believed that the bacterium coli played the chief role.

The degree of infection is influenced by various causes, in the first place by the number and virulence of the pyogenic micro-organisms. This fact would seem to go without the saying. In the second place, by their association. It is a peculiar fact, which is not understood as yet, that mixed infections are most injurious to man, while the very converse is true in animals. The monomicrobic infections, diphtheria, tuberculosis, milzbrand, typhus, run a mild course in man until mixed infection sets in, and symptoms of gravity are produced rather by the symbiotic forms Schleich says it is as if one form prepared the soil for the perfect development and virulence of another form, although it may itself alone not be virulent. The combination of the two or more forms produces chemical changes, toxins and fermentation processes, which further the development of all the forms.

Hugenin lays stress upon the fact that the combination of effects is not simply an addition to the products of the components, but is *de facto* something new and much worse, developing a poison of much more intense properties. Further, that a bacillus, which has on any account lost some of its virulence, regains it on the addition of other bacilli or their products. This is what makes mixed infection in tuberculosis, especially that mixed with pyogenic bacteria, so dangerous. The bacteria of decomposition or the products of decomposition fertilize the tissues for the colonization of the streptococcus. Goldscheider found in his experimenst upon rabbits that the injection of putrid streptococcus cultures not only gives to the process of local suppuration a grave course, but that it leads to general infection and metastatic formations with fatal termination, even though the forms of streptococcus used were not very deleterious. These conditions seem especially to prevail in the septic puerperal uterus.

Dr. C. Prentice, of Chicago, has put forth the claim that any physician can tell with absolute certainty when a person is dead by examining the retina. The characteristic difference between the veins and the arteries that ramify upon its surface disappears the moment life is extinct, and never does so until death has occurred. As soon as we are dead the color of both veins and arteries becomes the color common to veins. In all cases of suspended animation that simulates death he says the ophthalmoscope will show that the veins and arteries of the retina retain their characteristic difference of color.

STONE IN THE BLADDER.

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HOWEVER interesting it might be to review the history of stone in the bladder from the sixteenth century, when the operation of "cutting on the gripe," with its fearful mortality was in vogue, to the present, I will be compelled to ignore it, as my time is limited, and to pass at once to the consideration of some of the clinical aspects of this affection. I have adopted White's classification.

First, Those formed from the normal constituents of the urine,—uric acid, the phosphatic, the mixed, and the urate calculi.

Second, Calculi formed of salts found in normal urine, but never present in excess, except in disease—the oxalates and carbonates.

Third, Concretions formed from elements entirely foreign to normal urine—cystin, indigo and xanthic oxide.

For the formation of stone in the bladder two conditions are essential, a systemic tendency towards excessive elimination of urinary solids and a local disposition for the solids to adhere.

Urinary calculi are found from fetal life to old age. Children are more liable to uric acid, and old persons to phosphatic, stones.

When we consider the large size of the female urethra and its shortness, and that women are less liable to severe cystitis than men, it is not surprising that only 5 per cent. are seen in the female. Some surgeons are of the opinion that limestone soil furnishing hard drinking water tends toward the formation of stones, but it is found as frequently in sandstone districts.

Keyes says it has been found in every country excepting Central Africa. It is certainly less frequent in the negro race in this country. Frequently we have a history of renal colic, but a stone may pass to the bladder unnoticed. It produces vesical irritation and eventually cystitis is developed. There will now be frequent urination, more marked in the day when the patient is moving around. This is an important diagnostic point in excluding prostatic enlargement. Sometimes there is sudden stoppage during passage of the urine, which can be remedied by the patient lying on his back. There is usually pain on the under surface of the penis near the meatus. It is most marked at the end of urination, because the inflamed vesical mucous membrane presses against the calculus.

It is possible for a stone to be carried for years without causing pain, but all of the patients that I have observed suffered. There is muco-pus in four cases out of five, and blood is almost, without exception, passed. Priapism has been noticed in children, and Dr. White says masturbation is often contracted from handling the parts in an attempt to get relief from the pain at the penile head. Sometimes a pain in the foot or in the upper extremities is observed in these cases.

Upon the physical examination we must rely for a positive diagnosis of stone. If the subject be thin the stone may be felt by passing two fingers into the rectum and using pressure externally with the other hand. Of the different stone searchers Sir Henry Thompson's is the best, as it can be made to explore every portion of the bladder. The bladder should be filled with sterilized water when the examination commences, and allowed to escape as the examination proceeds. Every portion of the viscus should be systematically explored and when the stone is struck it will be in most cases plainly heard. The size can be determined by the sliding collar and markings on Sir Henry Thompson's searcher, or by the lithotrite. The cystoscope is valuable in determining the presence of stone when other means have failed.

The treatment of stones by injections of solvents or administration of drugs with a view of dissolving them has been entirely abandoned. There are two methods of treatment, litholapaxy and cystotomy, which may be either perineal or supra-pubic. Litholapaxy is the operation of election in adults, and such distinguished authority as Dr. J. William White prefers it in children, though we find Keyes and Agnew opposing it in no uncertain terms in boys under fourteen years. The operation might give a lower death rate in the hands of such an expert litholapaxist as Dr. White, but with the majority of surgeons, owing to the small size of the bladder, the small diameter of the urethra and ease with which the mucous membrane is torn, better results would follow lateral lithotomy. Gross's mortality in children with the lateral operation was a little over 2 5-10 per cent., and Keegan's 4 per cent. with litholapaxy. In adults adapted to litholapaxy, the mortality is 4 5-10 per cent., as against 9 7-10 per cent. in lateral lithotomy, and 11 3-10 per cent. in supra-pubic. In extreme old age the mortality is 7 per cent. in litholapaxy as against 18 or 19 per cent. in cystotomy. According to White, the contra-indications to litholapaxy are severe chronic cystitis, tight fibrous stricture in the deep urethra, a calculary nucleus that can not be removed as the one I have here, encysted stone, great size and unnatural hardness and an urethra intolerant to instrumentation. As between lateral and supra-pubic cystotomy the latter is unquestionably easier to perform and where the stone is very hard and above an inch and a half in diameter, and where the perineum is deep, and a foreign body is the nucleus of the stone, it should be preferred. Recent statistics show that with an ordinary case the supra-pubic operation is attended with a greater mortality than the lateral, in both adults and children, being about 2½ per cent. greater in adults and 10 per cent. greater in children.

The first case which I will report is that of a man sixty-five years of age, an ex-Confederate soldier, sent to me by Dr. Stewart of Canton, Alabama, in 1887; he was greatly emaciated and there was a constant dribbling of urine, with all of the subjective symptoms of stone present. He claimed to have been shot by a bushwhacker in 1863 while reclining on his horse. There was a scar about an inch above the anus, and a little to the left of the raphe of the perineum. I operated by the lateral method and removed the piece of lead which you observe, forming the nucleus of the stone. The stone weighs 225 grains, and is composed of triple phosphates. The piece of lead is three inches in length and weighs 275 grains. The patient made a good recovery. If I were going to perform the operation now instead of ten years ago, I would do the supra-pubic.

2. J. F, age thirty years, of Rollins, Alabama, applied for treatment in 1888, presenting the characteristic symptoms of stone. I introduced a Thompson's searcher, and verified my diagnosis. I performed the lateral operation, removing the stone which I hold in my hand. It weighs sixty-eight grains, and is composed of calcium phosphate. The patient reacted nicely, but six hours afterwards had a severe hemorrhage from becoming restless and removing the catheter *en chemise*. By the use of pressure, with the assistance of my friend, Dr. Jordan, we controlled the bleeding and the patient made a good recovery. I would have performed litholapaxy in this case but for a fibrinous stricture.

3. J. P., boy seven year of age, was brought to me by his mother in 1888 to be relieved of wetting the bed at night. He suffered but little pain and had been circumcised by the family physician with the hope of relieving him. I suspected stone from her statement that whenever he would jump the pain greatly increased. Introducing the searcher the stone was readily detected and removed by the lateral operation. It weighs forty-five grains and is composed of uric acid chiefly with some cystic oxide, as seen by the microscope. The patient's recovery was rapid.

4. T. D., boy age ten, of Elba, Ala., was sent to me in 1890 by Dr. Rushing, who had diagnosed the case. And you can readily understand from the size of the stone there was no difficulty in finding it with Thompson's instrument. It weighs 720 grains, and is composed of calcium phosphate and ammonio-magnesium phosphates —stratified. The lateral operation was again performed and the result was an uninterrupted recovery.

5. I was called in 1891 by Dr. M. L. Wood, of Montgomery, Ala., to see Mrs. S., a lady about sixty-five years of age. She was suffering intensely with her bladder, and had been, she reported, for three years. The calculus could readily be felt through the vagina and following Dr. Emmet's advice, I removed it by making an incision from the vagina to the bladder. She made a good recovery and is now in excellent health. It weighs 510 grains and is composed of calcium phosphate, inner layers stratified, outer layers spongy. No nucleus.

6. In 1896 Dr. Moody, of Dothan, Ala., sent me a boy seven years of age, B. L., who had been suffering about a year with this mulberry stone. He suffered more than any case I have ever seen, and it is not surprising when we observe the sharp projections of the calculus. I did the lateral operation and the patient made a good recovery.

The stone weighs seventy grains and is composed entirely of calcium oxide.

7. C. B., age thirty-five, had been suffering with his bladder for five years, and on questioning him I found symptoms pointing to stone. Upon examination I detected a large calculus, which I here present. It weighs 1,500 grains and is composed entirely of uric acid. I operated by the lateral method and the patient made a good recovery. I do not believe the lithotrite could crush so hard a stone. I think perhaps the supra-pubic would have been better, as I had a fistula that gave trouble.

8. F. B., age forty-eight, came under my professional care in 1894 with all the symptoms incident to stone. It was my intention to crush the stone, but the urethra was so intolerant to the use of instruments that I decided at the last moment to perform lateral lithotomy. Even the introduction of a Nelaton catheter was followed by a violent chill and the patient came near dying from urethral fever from the use of the staff. He made a good recovery, and is now writing philippics on the Democratic party. The stone weighs ninty-nine grains and is composed of calcium phosphate and triple phosphates,—dense,—no nucleus.

9. I was called by Dr. Wilkerson, of Montgomery, Ala., to see R. H., a boy three years of age, with stone in the bladder. I operated on him by the lateral method and he made a rapid recovery. The stone weighs thirty-six grains and is composed chiefly of calcium phosphate and ammonio-magnesium phosphates—stratified.

10. This immense stone was from the bladder of a boy nineteen years of age, upon whom I did not operate, as he died from exhaustion a few hours after being taken from the train to the Infirmary, and a post-mortem was made by the house surgeon, Dr. Thorington. I should certainly have performed the supra-public operation in his case. The stone weighs 1,790 grains, and is composed of calcium oxalate nucleus, surrounded with calcium phosphate.

I wish to express my thanks to my friend, Dr. Thorington, for analyzing these calculi.

THE INFLUENCE OF DISEASES OF THE NASAL ACCESSORY SINUSES OF THE EYE.

By M. F. Patterson, M.D., Des Moines, Ia.

THIS subject until recently has received but little attention, and at the present time the number of cases reported would not warrant statistics.

Within the last two years a remarkable interest has been manifested in diseases of the nasal accessory sinuses; previous to that time it was only the well-marked cases of chronic sinus diseases that were treated, either empyema or of malignant growth. From late investigations we learn that these cavities are extensively involved in acute general diseases.

Dr. Gradle, of Chicago, read a paper on diseases of the accessory sinuses Nov. 9,-1897. He quotes, as he says, some startling facts from reports of investigations made about a year ago by Frankel, of Hamburg, namely: "That in 146 unselected autopsies, he found no less than sixty-three instances in which there was involvement of one or more of the accessory cavities of the nose." Some of the diseases predisposed to inflammatory involvement of the sinuses, especially pneumonia, and cerebro-spinal meningitis. In peritonitis also a large number of instances were met with; some of them were apparently due to the presence of colon bacillus. Dr. Gradle quotes from several investigators to confirm the researches of Frankel; I will only mention Wolff, who found "in twenty-two cadavers of children dead of diphtheria, maxillary sinus involvement in every instance, and the sphenoidal sinus in every instance in which it had been developed. In fifteen it was undeveloped on account of age, while in seven cases in which it existed, it was diseased. The involvement was specified as diphtheria, according to the character of the disease in the nasal cavities." The diseases which seem to predispose the sinuses to acute inflammation, aside from those already mentioned, are measles, whooping cough, scarlet fever and la grippe. Acute sinus involvement presents similar symptoms as in the chronic, but usually not as well marked.

In maxillary disease, there is usually a feeling of fullness and weight below the orbit. There may be a severe supra-orbital neuralgia with more or less pain in the eye-ball and orbit. The supra-orbital and ocular neuralgias are not confined to maxillary involvement, as they may be even more severe in frontal and ethmoidal disease. In maxillary disease there is usually infra-orbital edema involving the lower lid. Where this condition is found, frontal and ethmoidal troubles can be excluded, as in these diseases if any eye complications, the lids are usually edematous, and if only the upper lid, frontal involvement would be probable.

In maxillary, frontal and ethmoidal diseases we often get exophthalmus and double vision, due to pressure on, or necrosis of the bone plates that separate these cavities from the orbit; and the pressure may be sufficient to interfere with the functions of the optic nerve. In ethmoiditis a sense of pain and fullness is complained of at the root of the nose, which is ascribed as a "cold in the head."

Photophobia and a loss of the sense of smell accompanied a large per cent of the cases of sinus diseases.

Pus in the nasal cavities is almost a sure sign of sinus disease. When pus is found in the anterior portion of the nose, it may either come from the maxillary, frontal or anterior ethmoidal cavities. Pus from the frontal and anterior ethmoidal is conducted into the middle fossa by the infundibulum, just anterior to the opening into the maxillary sinus (ostenus maxillare). Pus from the sphenoidal and posterior ethmoidal cells drain into the superior fossa, and is carried back into the pharynx.

I will, in this paper, later on, give a synopsis of a case which will explain the signs and symptoms of sphenoidal disease better than I can. As

acute inflammation of the sinuses do not cause as serious eye complications as the chronic, it would be of advantage to know what proportion of the acute cases become chronic, and how to prevent them from becoming so. Several investigators state that about one in ten become chronic, and that the others get well even without treatment. Douching the nasal cavities and a very cautious use of cocaine to reduce turgescence, to facilitate the cleansing process, is advised by some. The cocaine is to be used by the attending physician only. Empyema of the maxillary sinus in the chronic stage causes serious eye diseases in rare instances. Ziem has reported cases of eye disease resulting from maxillary empyema. Dr. Gradle reported two cases: one was exudative chorio-retinitis and the other neuro-retinitis. The only successful treatment in either of these cases was puncturing the antrum and relieving it of its purulent accumulations. Opinions have changed some of late in regard to the etiology and treatment of empyema of the maxillary sinus. Dental, as well as other surgeons, believe now that infection takes place oftener from the nose than from carious teeth, and most operators prefer to treat through the nose than through the anterior wall of the sinus.

I have seen numerous cases of empyema of the antrum of Highmore (maxillary sinus), but in no instance was there any eye complications except edema of the lower lid. All authorities so far agree that the maxillary sinus is more often empyemic than any of the others, and that the frontal is the least often affected. I have only seen two well marked cases of empyema of the frontal sinus; both cases presented the same symptoms and were operated upon with good results. With these cases there was some supra-orbital pain; the upper lids were very much swollen, and there was exophthalmus with diplopia. The etiology was probably nasal obstruction. The external operation was done in both of these cases. This method of treatment is considered best by most operators, at the same time establishing drainage into the infundibulum. I am unable to find reports of many cases of ethmoiditis, and the majority of them were neglected fatal cases. Bosworth, in his text-book, reports two cases; the first was fatal; the patient developed orbital abscess and meningitis; the later trouble caused death. The second case recovered, after removing a bony sequestrum.

In July, 1893, a farmer fifty years old came to my office to be treated for catarrh. He gave a history of ethmoiditis as a tight feeling at the base of the nose, with some pain in that region, the pain extending into the forehead. These symptoms came whenever he caught cold, together with nasal stenosis. The trouble was evidently of long standing, for at the first treatment I removed four sequestra from the left nasal cavity, the first of which was the middle turbinate bone. Three of these sequestra were so large that they had to be removed through the pharynx. I cleaned the nostrils after this a few times, which was all the treatment that was necessary. In this case the posterior as well as the anterior cells were involved.

I will report a case of chronic anterior purulent ethmoiditis which I consider completely cured, of a lady forty-four years old. She had had nasal obstruction, particularly of the right side, for several years, caused by la grippe. The patient had a high degree of myopia, which she says she did not have until after the severe attack of la grippe. I would not claim that the myopia was due to ethmoiditis, as it also might be to the la grippe, although the headache and pain through the eyes have ceased since operating on and treating the nasal and ethmoidal cavities, also a slight swelling of the eyelids has disappeared. Treat by reducing turbinal hypertrophy by galvano-cautery, and by removing the anterior half of middle turbinate body of right side in order to reach anterior ethmoidal cells. To wash out the cells I use Blake's inner ear syringe with the curved canula in the infundibulum. The first few treatments I used Dobell's solution, followed by peroxide of hydrogen. The last time I used the peroxide I heard a crackling sound and immediately noticed both eyelids very much swollen. Cold wet compresses reduced the swelling within two days. This accident demonstrated to me conclusively that the external ethmoidal plate was very thin and fragile. I used afterward eight grains to ounce silver solution for awhile, later on acetanelide solution in 50 per cent. alcohol. Just before using either of these solutions would tampon back of the infundibulum and spray oil into the nose to protect the throat and nose. To reach the ethmoidal or the sphenoidal sinuses it is usually necessary to remove the anterior half of the middle turbinate body. It is very easy to reach the anterior ethmoidal cells through the infundibulum, but very difficult with great danger of doing harm to attempt to puncture the sphenoidal sinuses, although the puncture should be made in certain cases.

In the *American Journal* of Nov. 23, 1895, Dr. Day, of Pittsburg, reports a case of caries of the sphenoid in a man fifty-five years old. The patient held out for two and a half years, but the real trouble was not recognized during the first year and a half, although the patient had consulted many eminent men in the profession. The usual diagnosis was neuralgia and mal-nutrition, of a probable malarial origin. Later it was believed to be of syphilitic origin, caused by infection during an operation some years before, as the patient was a surgeon. Besides the usual symptoms the patient was chilly and melancholy at times. At the post-mortem it was seen that the entire body of the sphenoid and the basilar process of the occipital bone were riddled with sinuses, and, of course, brain abscess was one of the results. The optic and other nerves and blood vessels were exposed to this purulent product. The orbit and anterior ethmoidal cells communicated with the brain abscess. There were no eye complications except a slight crossed appearance. The reporter of this case believes the eyes were protected by the thorough drainage into the nose and from there into the throat during the last year, and partial drainage during the first year and a half. It appears to me almost miraculous that the eyes should escape in this

case, even with good drainage, as the optic nerve membranes were bathed in pus, and infection of these membranes always causes neuritis. We do know that the seventh nerve in the middle ear is sometimes exposed to pus owing to necrosis of the Fallopian canal, and it rarely suffers from it. Then, again, we see extra dural abscesses in mastoid complications where the dura mater alone is involved if there is good drainage, but as soon as there is obstruction to drainage there will develop lepto-meningitis. In this case of Dr. Day's the drainage prevented dilation of the sinuses, thereby preventing one of the main causes of eye complications, namely, pressure on the nerves and vessels; but the drainage did not prevent the extensive destruction of bone tissue, which can be accounted for by the cause being syphilis. One of my reasons for referring to this case is to show how such conditions may be unrecognized even by the best talent.

Dr. C. R. Holmes, of Cincinnati, in *Archives of Ophthalmology*, October, 1896, in an article entitled "The Sphenoid Cavity and its Relation to the Eye," reports three cases:

Case (*a*).—Unrecognized empyema of left sphenoid sinus; intense headache; total loss of sight in left eye; opening of cavity; recovery of vision. The patient was a man thirty-seven years old. The author has summed up this case as follows:

1. "Dull pain on left side at intervals for a year or more, aggravated by colds; due to inflammation of the left sphenoid cavity with retention of pus, when osteum sphenoidal was closed by swelling of the mucous membrane and turbinated bodies."

2. "Neuralgia of first division of the fifth gradually becoming intense and constant."

Cause.—Extension of inflammation through thin bony walls of sphenoidal cavity into sphenoidal fissure, causing first irritation of, then pressure on, fifth nerve.

3. "Visual disturbance, slowly increasing to total blindness."

Cause.—Inflammation extending from sphenoidal cavity through bone of paper thickness to optic nerve. Reduction of caliber of ophthalmic artery for same reason.

4. "Exophthalmus and congestion caused by inflammation in sphenoidal fissure, and strangulation of ophthalmic vein."

5. "Movements of globes painful and limited."

Cause.—Inflammation and pressure in sphenoidal fissure on third, fourth, fifth and sixth nerves.

"And lastly, rapid subsidence of all these symptoms upon relieving pressure and reducing inflammation in sphenoid cavity and fissure."

Case (*b*).—Unrecognized empyema and necrosis of sphenoid, visual disturbance; cerebral hemorrhage; death, and autopsy.

Case (*c*).—Empyema of sphenoidal, ethmoidal and frontal sinuses; cerebral abscess; death and autopsy.

This was a case of a boy fifteen years old. An operation was refused. Patient had double optic neuritis.

Nasal stenosis is the only cause given in these three cases. There was no history of syphilis, tuberculosis, rheumatism, malaria, or of acute infectious diseases, except la grippe increased the trouble in the latter case.

It is well-known that the accessory sinuses may contain neoplasms of any variety and that about two-thirds of them are malignant. In reviewing the various reports of sinus diseases we learn that the eye complications are most apt to accompany the more serious sinus diseases, and are only secondary in importance to the sinus diseases which cause death. By observing and properly interpreting the eye complication, we have a valuable means of diagnosing the primary trouble. We also learn that occasionally, the eye complications are more serious than the primary trouble, as in Dr. Gradle's two cases of maxillary empyema. Another point for serious consideration is how much acute empyema affects tissues intimately connected with the eye. I believe we get sphenoidal empyema with dilation of the sinuses occasionaly during attacks of acute general diseases; when the general disease declines, the nasal obstruction does also, with at least partial restoration of drainage to the sinuses. A dilatation of the sphenoidal cells even for only a few days might cause permanent damage to the optic nerve, and might cause temporary paresis of the ocular muscles from pressure on the third, fourth and fifth nerves.

A very common accompaniment of acute general diseases is neuralgia of the fifth nerve, and although there may be several causes for it, we surely could not exclude the sinus pressure. Pressure on the ophthalmic vein would cause edema of the eyelids, which would not be permanent, but which we often see. We know that meningitis causes optic neuritis during acute diseases; and meningitis is caused by chronic empyema of the sphenoidal, ethmoidal and frontal sinuses, then why could not meningitis be caused by acute empyema of the sinuses? It might be said—because there is no necrosis. This is partially true, but it is well-known that the cell walls are often of paper thickness, and there may be actual dihiscence in places, in which cases necrosis would not be necessary to allow of an extension of the trouble. The older writers claim that syphilis and tuberculosis are the causes of sinus caries and necrosis in most instances; and from what we know of these diseases, it would be reasonable to think so. Only one of the cases that I have referred to in this paper indicates syphilis as a cause, and in no instance was there tuberculosis.

I believe a large portion of the cases commence with simple catarrh and afterward become purulent by infection from the nasal cavities. In all cases drainage should be established early, and to do this, the nasal cavities should be attended to first.

—Medical colleges in the State of Pennsylvania must now file a bond of $1,000 in the Court of Common Pleas as a guarantee that they will not dissect any human bodies except those that come to them through the regularly appointed legal channels. This bond is forfeited if they are discovered using any other bodies. The University of Pennsylvania has already complied with the law and the other colleges of the State will soon do the same.

HOSPITAL FATTY DEGENERATION.

By Charles E. Page, M.D., Boston, Mass.

"AND, alas, for Sarah Bernhardt, too! The beastly fat of old age is upon her," says a writer in the Boston *Herald*. "She cannot play the parts of supple youth any more. Her new plays will be written with reference to this avoirdupois. Characters who should be stout and not too nimble, nor too young, will be Mme. Bernhardt future roles." Mme. Bernhardt has been so unfortunate as to be obliged to submit to an operation, the exact nature of which is not known to the present writer, and like thousands of others who have been forced to lie in bed for weeks or months, she has fallen a victim to the prevailing gross ignorance of physicians and nurses as to the proper nutrication of bedridden patients.

Something like twenty years ago the writer became deeply interested in the study of the causes of the shocking mortality among infants and young children which has prevailed and still prevails everywhere in civilized life. It was not long before he became convinced that one of the chief causes was fatty degeneration occasioned by excess in diet and deficiency in exercise, although excessive clothing and a lack of fresh air are among the devitalizing influences to which the little ones are commonly subjected. Says Dr. Felix Oswald, author of "Physical Education," and one of the soundest thinkers and teachers of hygienic medicine living: "The representative nurse believes in cramming; babies, like prize pigs, are most admired when they are ready to die with fatty degeneration. The child is coaxed to suckle every hour or two, day after day, till habit begets a morbid appetite, analogous to the dyspeptic's stomach distress, which no food can relieve till over-repletion brings on a sort of gastric lethargy." ("Physical Education," p. 202.)

Prof. Gustave Jaeger has proved, says Dr. Schlegel in a recent essay, "that the specific gravity of different individuals is very different, and that the state of health of these individuals is closely connected with their specific gravity. The greater the weight of the human body in comparison to the space which it occupies, *i. e.*, the greater its specific gravity, the more able it is to resist epidemic diseases. Persons of low specific gravity are taken ill from very insignificant causes and are very susceptible to contagious diseases. Such persons have usually a fullness of the body, and are even corpulent, but just that which gives them a great size is useless ballast, viz., fat and water. These substances endow the heaviest bodies with a comparatively low specific gravity, giving, at the same time, to the constitution, little powers of resistance."

Although not normally so, strictly speaking, still in practice in civilized life the human infant is a bedridden patient. He is placed on his back, sweltered in clothing, deprived of natural exercise and constantly fed, and to a great extent he is deprived of fresh air and suffers from lack of oxygen, without which even the best of food, though given in appropriate amount, cannot be transformed into good blood. In other words he is treated very much as most hospital or private patients are when from surgical operations or other causes they are forced to lie still in bed for any length of time. Otherwise, instead of sustaining a mortality of about 40 per cent. before reaching the age of five, babies—at least, the healthy born—would be like puppies and kittens, not to be gotten rid of without drowning. The writer has long been impressed with the fact that no end of mischief arises from the common practice of forced feeding and stuffing sick and ailing persons, but certain observations and experiences of very recent date have served to emphasize and more than ever confirm his views on this question. A girl of ten years, for example, is attacked with scarlet fever, in mild form, as stated by the family doctor, and it is thought best to have her go to the hospital for treatment. There she lies still in bed and is subjected to constant feedings with milk, beef tea, etc., every two or three hours. Overfat at the start, she grows still fatter, and relatively very much more degenerated with fat, since up till the time of her attack she was taking of course considerable exercise, in which every step and every motion of the body did something towards strengthening and keeping the muscular system clean and free from fatty degeneration. Under the influence of the vicious system of which I am complaining the little patient's heart began to show signs of weakening (fatty heart), and drugs were given for this; and all the time, while the parents and friends were not permitted to visit the patient, the daily report to the inquiring relatives was that "she is getting along nicely." Finally, the mother and friends began to feel alarmed and distrustful and demanded to see her. Finding her grown so bloated with fat and so soft and weak as to excite real alarm as to the prospect of her ever leaving the hospital alive, the friends determined to withdraw her from the hospital. Permission for this action was granted only upon their signing a paper relieving the hospital authorities from all responsibility as to the results of removing the patient "prematurely"! The patient was taken to her home, where under a radically different regimen, including less frequent feeding and the withdrawal of drugs, she began at once to improve and, everything considered, made a satisfactory recovery.

A boy of two and a half years entered the hospital for an operation for inguinal hernia. An active little fellow, taking no end of steps from morning till night, thriving perfectly on three moderate meals a day, he was a most excellent subject for an operation. Under good all-round management he should have been out of the hospital and still able to run about within a couple of weeks; but under the evil system of forced feeding, slopping with milk, beef tea (practically identical with urine, as chemical analysis shows), etc., every two or three hours, hunger or no hunger, always a bid for fever and pus, he had a set-back at about the time he should have been leaving the hospital. His wound was suppurating and the patient's temperature was at 105 Fahr. on the fourteenth day, and about the end of the fifth week, finding his physical condition

growing actually worse instead of better, the patient was at the writer's instigation removed to his home where again, as in the first case described, under rational treatment he began at once to mend. He entered the hospital, as already stated, in prime physical condition, and at the end of about five weeks he came out a helpless invalid, unable to bear his weight on his feet, with a running ear and in very bad condition all round. In this case a strong protest was made during the first days of the boy's confinement against the manner of feeding, but without avail, the surgeon declaring that he alone was responsible for the management of his patient, although as we all know the feeding of hospital patients, so far as concerns frequency and amount, is left entirely to the discretion of the "trained nurses," who have been carefully "trained" by still other nurses, and all of them sadly ignorant as to the relation of food to exercise and the needs of a bedridden patient for nutriment. The employment of scientific massage is, in all these cases, of immense value, keeping the muscular system clean and free from degeneration from fat, maintaining strength and improving nutrition.

No class of professional men are more deeply concerned in the question of when, how, and when not to feed bedridden patients than are surgeons whose most brilliant operations often prove abortive and even fatal from errors in diet such as have been described herein. In a brief code of "Health Hints" formulated by the writer some years ago in the interest of his clients for the preservation of health and to promote recovery from disease the first commandment is, "Never eat unless hungry." To eat without an appetite is a species of self-abuse inexcusable for sick or well. There is no pleasure in such eating and it prevents the speedy return of a normal appetite indicative of the need of nutriment and of the capacity for digestion and assimilation of food. To coax a sick or ailing patient to eat in face of nature's protest, to tempt his appetite with delicate dishes or stimulate it by means of "tonics," whether alcoholic or what not, is an outrage on the part of any physician or surgeon, which should be held as sufficient justification for a suit for damages for malpractice.

As evidence that the writer does not stand alone in this position he would state that an article in the *Medical Record* (Feb. 24, 1894,) on "Therapeutic Fasting; Should It Be Termed Starving? Its Employment in Typhoid Fever and Other Diseases," brought him many appreciative letters from men prominent in the profession, the late Dr. Samuel Sexton among the number, thanking him "for such educational work," while a companion article in the same journal (April 28, 1894), on "Hygienic vs. Drug Treatment for Typhoid Fever," advocating the Brand bath (fifteen minutes, with brisk all-over hand-rubbing, in the tub, temperature of water about 65 Fahr.) as often as the patient's temperature rises to 103 Fahr., with profuse water drinking and fasting until convalescence should be thoroughly established, was warmly endorsed by many prominent physicians, the eminent Dr. Simon Baruch, of New York, declaring that the article "should be printed as a tract and distributed broadcast among the profession."

REPAIR OF LACERATED PERINÆI WITH RELAXED VAGINÆ.*

By Wm. Francis Honan, M.D., New York.
Attending Physician Metropolitan Hospital, New York.

IT is an axiom in surgery that when the literature of a subject offers great variety in treatment none of the procedures is invariably satisfactory. Laceration of the vaginal tube and perineal body so affects the integrity of the pelvic contents as to warrant the most careful and painstaking operation for their repair. It is not the purpose of this paper to discuss the pathological conditions resulting from such injuries—such would necessitate consideration of cervical tears as well—but rather to point the principles which should guide the operator in treating the conditions embodied in the title of this effort. We speak advisedly of underlying principles, for we start with the assumption that it is understood that the operation must always meet the requirements of the individual case. Given a patient who from one of the many causes sustains a perineal injury during labor, it is our belief that should immediate operation not prove wholly satisfactory it is quite possible, at some date when involution has taken place, to restore the vagina, in point of size and integrity to nearly its nulliparous condition. Operations for these conditions have for years been of the flap-splitting procedure of Lawson Tait, or some modification which, in the surgeon's judgment, was applicable to the case. Tait, in a preface to a recent brochure by his assistant distinctly discourages modifications of his operation, and most emphatically believes it to be applicable to any condition. I do not know of any surgeon who at this day believes in or practices the original operation for even a greater number of cases of ruptured perineum. For closing the outlet it is an admirable procedure, that much can easily, quickly and satisfactorily be accomplished, but as a method to gather up the retracted pelvic fascia, narrow a voluminous vagina, offer a firm support to previously displaced organs and relieve the symptoms of the patient, does not in my humble estimation come within its scope. This, then, brings us back to the consideration of those operations which are performed rather within than without the vagina, for within the ostium vagina you will find the most important laceration and the aim must be to reunite the separated edges of the levator ani muscle and pelvic fascia, and fix them to and in front of the lower end of the rectum and upper part of the anus. The constant forcing of the feces against the anterior rectal wall in cases of lacerated perineum stretches the posterior vaginal wall, displaces the uterus backward and downward, and throws the fundus between the utero-sacral ligaments. This condition favors the development of rectocele greater or less in extent, according to the severity of the condition. The Lawson Tait operation

*Read before the Clinical Club.

does not remove the rectocele, thus leaving a very disagreeable feature behind. At the present time it is our opinion that the condition of relaxed vagina and outlet is best met with by the denudation principle, as taught by Emmet, but its more particular application, somewhat exaggerated, as proposed by Howard Kelly, ("Operative Gynecology," Vol. I.). The original operation of Emmet, in many ways, perhaps, fulfilled many of the conditions to be cured by an operation on the perineum, but owing to a lack of accentuation, it it might be said, much of its value was lost, and while it gave a good perineum, you frequently failed to narrow a capacious vaginal tube. Since Dr. Kelly has published this most excellent book, in which he gives a most ingenious modification, I have made use of his suggestion in two cases, with most gratifying results, and for that reason offer this contribution in the hope that others may be interested to investigate a very clever procedure. The reader is referred to the author's plates, a careful examination of which indicate at once what is intended, and will be far superior to any written description. The usual preparations having been made and the patient supposed to be ready for a perinæorraphy, the final step is to determine the limits of the denudation, which is done by inserting two tenacula shaped like shepherd's crooks, into either side of what would be the remains of the hymenal ring. The handles of the tenacula being now passed to the opposite sides, traction made upon them should close the outlet to the size intended, when the operation is completed. If the tenacula have been placed too high towards the urethra, the opening will be too small, or, if too low, the new outlet will continue to be too large, the operation notwithstanding. A bullet forceps tenaculum is now inserted posteriorly in the crest of the rectocele. Traction on all three instruments simultaneously will give the areas to be denuded, which will be, roughly, two triangles occupying the sulci of the vagina on either side. These outlines can be easily demonstrated on the patient and should be carefully and symmetrically marked out with a scalpel, care being taken to make both sides "match," as the ease and beauty of the final closure is much dependent upon this maneuver. Denudation is now performed with, preferably (my preference), a curved, sharp-pointed scissors. Denudation of the triangular areas in the sulci having now been completed, there remains a narrow, triangular, undenuded area between and extending to the crest of the rectocele. This is now denuded; the amount cut off must be determined by the relaxation of the posterior wall. The wound area is now rather large and usually shows considerable oozing, and often spurting arteries, which must be controlled in the usual way. The wound is easily closed by about three principal sutures inside the vagina, and one to three outside. The first suture of silk worm gut is passed from one side of the end of the undenuded posterior strip, from whence sprung the rectocele, through and beneath the triangular area, emerging on the mucosa of the lateral vaginal wall. Tying of this suture closes most of the denuded area of the upper part of its triangle and the remainder is closed with interrupted catgut sutures. The same procedure having been performed on the opposite side, there remains but to pass a sort of gathering suture, embracing the upper angles on the sides and transfixing the rectocele.

One or two silkworm gut sutures are usually sufficient for the closure of the skin surface. The result of the operation is now evident: the vagina is now restored to something approaching its probable nulliparous size, as well as lifted up well beneath the pubic arch, and removing it from the effect of intra-abdominal pressure, which has the effect of keeping up eversion of the posterior wall. The external sutures are removed about the eighth day; those inside may remain for several weeks. The description of a perineal operation is always difficult, and the reader is referred to Dr. Kelly's book for the elaborate details, which are clearly given and illustrated with plates of such excellence as to make the purpose of extended description here unnecessary. As before stated, two cases recently operated upon gave such good results as to warrant the writer offering this paper for your discussion. This operation, as above described, is applicable only to incomplete laceration.

CYCLICAL STOMATITIS AS A MENSTRUAL PHENOMENON; OOPHERECTOMY; RECOVERY.*

By Byron B. Davis, M.D., Omaha, Neb.
Surgeon to Immanuel Hospital.

A YEAR ago had the charge been made that I would be guilty of removing the ovaries of a patient without pelvic symptoms the imputation would have been treated as a vile slander. Since then I have done that very thing; and tonight report the case, not to defend my course, but to bring before you the most unique menstrual phenomenon it has been my fortune to meet. The patient was under the care of Dr. A. J. Best, of Centralia, Kans.; is of good family history, and thirty-five years of age. As a girl, had severe menstrual pain, and was never very strong. Has given birth to four children, the youngest being three years old. No miscarriages. Several times before the birth of the last child she had attacks of stomatitis in coincidence with menstruation, not regularly and never very severe. But during the last three years each period has been accompanied by a severe ulcerative stomatitis involving the tongue and entire buccal mucous membrane. The first symptom of an approaching molimen is soreness of the mouth, which usually manifests itself from five to seven days before the menses appear. Inspection of the oral cavity at this time reveals a general redness with many small punctate spots of deeper red which mark the site of breaking down of the mucous membrane and ulcer formation a little later. The attack reaches its acme at about the close of menstruation, when the cavity is studded by myriads of small, dirty ulcers. Healing begins at the cessation of the flow, the integ-

* Read before the Omaha Medical Society, Oct. 12, 1897

rity of the mucous membrane not being restored until a week before the beginning of the next cycle. During the continuance of the stomatitis no solid food can be eaten; even liquids must be taken luke-warm and with much discomfort. Hot or cold fluids are intolerable. But her inability to masticate is of little moment, for her loss of appetite is complete. There is no reason to suppose the mucous membrane of the alimentary tract is generally involved, for she has never been troubled with gastric nor abdominal pain, nor has there been anything about her alvine discharges to arouse suspicion of gastric or intestinal lesions. Pelvic pain, though not wholly absent, is no worse than the majority of women experience monthly.

During the week between the successive menstrual cycles her appetite is never good, and there is a constant falling off in weight and strength month by month. Weakness and lassitude mark her every movement, and she presents an emaciated appearance, it being simply a case of slow starvation.

The uterus is movable and normal in size and position. On account of nervousness on the part of the patient the examination of the broad ligaments is not very satisfactory, but there seemed to be an ill-defined mass on each side.

Dr. Best, her family physician, a man of exceptional ability and good judgment, has tried every means of treatment which seemed to offer any hope of relief, but she has grown continually worse.

Her husband has traveled extensively with her, hoping that some climatic change might be of benefit. Incidentally they have consulted several medical men eminent in the profession, but all to no avail. Latterly several, among them a prominent gynecologist of Kansas City, have advised the induction of the artificial menopause.

This is the history I elicited when called to see her at her home. The problem seemed a clear one. The stomatitis, being a regular complication of menstruation, if the menstruation was stopped the complication would of necessity cease. Reasoning that the treatment she had already received was as good as any she was likely to get; that she had obtained no benefit, but was constantly losing ground; that with each recurring menstrual cycle she was rendered less able to withstand the shock of an operation, I had no hesitancy in advising the removal of the ovaries. Accordingly, December 5, 1896, with the valued assistance of Dr. Best, of Centralia, and Dr. Hayes, of Seneca, Kansas, I removed her tubes and ovaries. The operation was an easy one and her convalesence was uneventful.

At date of the operation she was just beginning to complain of the soreness of the mouth which marked the beginning of her period; within a week it was perfectly sound and has remained so ever since. At the close of December her physician wrote me that the operation plus the slight amount of stomatitis had been much less unpleasant to her than any month for almost three years. Since then she has gradually gained strength, and is now in excellent health, stronger than she has been for years. The result has proven that we were abundantly justified in resorting to these extreme measures.

No plausible theory has presented itself to account for this phenomenon. One object in presenting the case at this time is a hope that some one may be in a position to make a satisfactory explanation. Stomatitis during lactation is quite frequent, and I have known a few cases of stomatis which might have been associated with menstruation, but the association was only conjectural.

It would doubless come under the general classification of a vicarious function, or of hysteroneuroses. It has occured to me that there was possibly a congestion of the buccal mucous membrane which was only a feeble attempt at vicarious hemorrhage. That because of the general lowered vitality, while the capillaries were engorged with blood, the tissues broke down with great ease. This is not a theory, but merely a suggestion. The patient at no time has had vicarious menstruation, nor did the ulcerated mouth bleed easily.

Or the whole phenomenon may be explained as the various menstrual dermatoses are sought to be explained on the ground that the vasomotor nerves are at fault.

The specimens removed are here for your inspection. The right ovary contained a cyst the size of a duck egg, while the left was occupied by a cyst somewhat larger. The right tube, one-half inch from the corner, presented a hard tumor which seemed to occupy the wall. In the fresh state it was five-eighths inch in diameter, and almost spherical. On incision it is found to be occupied by an organized blood clot, with a connective tissue trabecula constituting the greater part. The spaces are occupied by granular pigment. I can nowhere find any decidual cells or chorionic villi, so my first impression that it was probably a perished tubal pregnancy is unproven. Another point which negatives the idea of tubal pregnancy is that in the microscopic picture the mass is separated from the tube by normal tubal mucous membrane. The tumor is most probably derived from hemorrhage in the wall of the tube. Or there may have been a fibroma with hemorrhage from the capsule, the blood working its way betweenthe fibers.

CYCLING AND THE SADDLE.

Injury of the prostate gland and the prostatic urethra from riding a faulty saddle is one of the most deplorable results that can follow the fascinating practice of cycling; likewise an improper saddle, by permitting pressure and irritation of the external genitals, sometimes develops the habit ot masturbation in girls. With these elements of danger eliminated, it is by far the most popular and beneficial form of outdoor exercise we are acquainted with.

The physician who thoroughly masters the saddle question both from a scientific and practical standpoint and advises his patients and patrons accordingly, may render them a very great service.

The profession (at least some of them) in St. Louis, Mo., are in a terrific wrangle over something which at this distance does not appear clear. The discussion *pro and con.* does not savor of conduct becoming to gentlemen. It ought not to be a difficult matter to discipline men for the conduct complained of.

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God screens us evermore from premature ideas. Our eyes are holden that we cannot see things that stare us in the face until the hour arrives that the mind is ripened. Then we behold them, and the time that we saw them not is like a dream.—EMERSON.

A NEW MEDICAL COLLEGE.

NO two institutions in the United States have made more rapid advances during the last decade in legitimate university work than Johns Hopkins and Cornell University. With Cornell, especially, the liberality of wealthy men has endowed one department of study after another until the hope of the founder, Ezra Cornell, seems to be on the eve of fulfillment; that the university which he founded would in time furnish the principles of instruction in every departmeunt of science and industry. Among the so-called learned professions Mr. Cornell specially contemplated a school of law and of medicine. The former was established a few years ago but until now the time was not ripe for the establishment of a medical school upon the unsectarian and thoroughly scientific basis which Mr. Connell wished every department connected with the university should occupy. A short time before Mr. Cornell's death he outlined a plan to one of the editors of this journal for a medical department, not restricted to one dogma or bound in the fetters of any school, but inviting free thought in the line of scientific investigation and opening new channels of research. As, for instance, it seemed to him that the instruction in Materia Medica was too crude, confined to too narrow limits, and failed to point out the best work which so-called remedial agents were capable of producing. He would have drugs studied from a physiological standpoint and their dual action clearly pointed out. Properly instructed in these principles he said the use of drugs could be safely left to the individual judgment of the physician. In elevating medicine from the reign of empiricism to the dignity of a science founded on deductions from scientific investigation was in keeping with the central idea of university work which he kept constantly in view. At his request the plan was submitted to prominent physicians, among the rest Dr. J. M. Carnochan, Dr. Hossock, Dr. A. K. Gardner, Dr. Darling and warmly approved by them. When brought before the Regents it was opposed by President White on the ground that the time was not ripe for a non-sectarian college, and also from the lack of funds necessary to carry the plan into execution. In 1882 an attempt was made by some of the professors who had withdrawn from the university to establish a medical college in connection with Cornell University, which was rejected by the University.

This led to the establishment of the Post Graduate Medical School, which has been a most important factor for advanced scientific and clinical instruction to members of the profession who have been a longer or shorter time in active professional work.

Recently the resignation of most of the faculty of the University Medical College, owing to a disagreement with the Council of the New York University of which it was a department, opened the way for the establishment of a new medical school. The contribution of $500,000 by Col. Payne, one of the millionaire Standard oil magnates, at once placed the new organization upon a solid financial basis, while the willingness of Cornell University to accept it under certain conditions as one of the departments of the institution was a guarantee to the profession and the public that its line of work would always be in accordance with the most advanced thought of the age. The first half of the course comprising the pure sciences which form the basis of medical training is to be duplicated at Ithaca. The admission of women on equal terms with the men, which is the rule in every department of Cornell University, will also be a feature in the Cornell University Medical College. The free state scholarships granted for other departments of Cornell will also be good for the Medical College. These features, peculiar to Cornell, will naturally attract young men of a high grade of scholarship, and women who prefer to pursue their studies on the same lines with the men enjoying the same scientific and clinical advantages. Another advantage is, that portions of the course usually taught in didactic lectures, including a certain amount of laboratory work, can be pursued in the central institution, thereby giving more time and better arrange-

ments for clinical teaching during the last two years of the course, which can only be taught in a large city.

The New York University has heretofore been one of the most popular and liberal of all our medical colleges and has done excellent work. How the new organization may affect its standing it is impossible to say. The study of medicine within the past few years has made such rapid advances in every department as to render much of the instruction of the past obsolete. Science in marking out new lines of investigation has established principles so thoroughly tested by experience as to leave no longer any room for doubt. Worked out from different standpoints and lines of investigation, they no longer belong to any one school, but to the entire profession. The study of germ life, the dual action of drugs, asepsis, pscyhology, and those subtle forces which are felt throughout the universe in the process of evolution, life and death are elevating our profession from empiricism to a science, which in its search after truth places under contribution all sciences. The great principles of a scientific medical education must be taught in all schools which even pretend to keep pace with the rapid progress of scientific thought.

Nothing should be kept back. Let principles clearly stated, facts fairly presented, speak for themselves and each one form his own opinion of when and how they can best be utilized. In this age of progress a medical school founded on any other basis will surely fail.

A VALUABLE ADDITION TO THE MATERIA MEDICA.

DR. W. W. WINTHROP, of Fort Worth, in Florida, gives his experience in the Texas *Record*, with a plant found in the Everglades of Florida, called by the Indians Husa. The plant, as yet unclassified, is of a dirty whitish green color, with a ball-like white formation at its summit, where the flower should be, and slightly lobulated and to all appearances like a small cauliflower. It grows in clumps in moist, shady places, particularly on the hummocks at the root of the cabbage palm. It is of a low order of plants, above the mosses, probably a cryptogam and indigenous to the Everglades. It is claimed by the natives that the plant is a perfect antidote for all snake bites and stings of insects. A negro in the presence of Dr. Winthrop allowed himself to be bitten several times by mocassins freshly caught, whose poison is ranked among the most virulent of snake-poison. After each bite the negro chewed a little of the herb which he said counteracted the venom. This was probably true, as no bad effect fol owed the bite. Dr. Winthrop, in subjecting the plant to the strongest tests, finds it one of the most diffusable stimulants known, acting immediately.

Dr. Winthrop and other physicians who have joined in the tests find the plant not only a perfect antidote for narcotic poisons, but an infallible cure for the opium habit. He says it takes the place of opium, sedative but not narcotic, supporting the patient fully. It produces slight elation, but no somnolent effect. A physician cured himself of the opium habit with it, of twenty-three years' standing, having used as high as forty grains of morphine a day. The effect upon him he said was delightful, making him feel as comfortable as one would feel after a satisfying meal. The testimony of several physicians whom Dr. Winthrop invited to test the drug in the opium habit was that it was a perfect success, never having failed where the patient wanted to be cured. Dr. Winthrop is a man of high standing in his profession and his testimony seems to be so positive as to exclude doubt as it regards his statements. The field of action as a diffusable stimulant is so vast that when thoroughly tested it may prove one of the most valuable remedial agents in the materia medica.

TRAINING THE SIGHT.

MR. R. BRUDENELL CARTER, in a recent address before the London Society of Arts, expressed his opinion that the average acuteness of human eyesight can be very greatly improved by systematic training, its quality being tested from time to time, as is now done in the case of railway employees. The habit of seeing as much as possible, of earnest visual attention to the details of the environments, would certainly have the effect of increasing the activity of the visual function, and also in all probability of promoting the growth of finer fibers in the retina, by the aid of which smaller images could be appreciated. Mr. Carter gave reasons for believing that the vision of town-bred children is less acute than that of the country-bred; the former seeing chiefly large objects, such as houses and omnibuses, under large visual angles; the latter habitually attending to smaller or more distant objects, and using the eyes under smaller visual angles. The practical conclusion was that all school teachers should be instructed to test the vision of new pupils, and to record the facts in a register, at the same time calling the attention of parents to cases of manifest defect, and thus enabling them to obtain timely advice, or to regulate the course of education with reference to the special require-

ments to each child. It was further suggested that vision should be trained in schools by the use of difficult test-objects set at proper distances; it being only work upon near objects that is ever injurious to the eyes, while work upon distant objects must always be of the kind by which the faculty exercised is likely also to be improved. It was maintained that sight might even be permitted to take its place among the physical qualities that are made the basis of competitions, and that prizes might be awarded for excellence. It seems certain that there are positions in life in which the power to see acutely might be quite as valuable as, or even more valuable than, the power to run swiftly; and there seems no valid reason why the recognition which is daily given to the latter should not be extended also to the former.

AMBULANCE SHIP.

THE construction of our modern battleships is such as to render an ambulance ship to accompany each squadron, to receive the wounded after an engagement, an absolute necessity. An ambulance car is already in use on one or two railroads. The idea of an ambulance ship was first suggested by Dr. Rufus I. Tyson, when Surgeon-General of the Navy. The idea was taken up by Dr. Van Riper, the present Surgeon-General and fully elaborated in a paper read before the International Medical Congress. In outlining his plan Dr. Van Riper said: "The vessel as designed will be 3,550 tons displacement; 275 feet on the load line, and 300 feet over all: 50 feet beam and drawing 18 feet; a coal capacity of 450 tons, giving 18 days steaming at 10 knots. The water tanks will hold 9,000 gallons. The ship will carry 4 steam launches and 4 barges each barge arranged with a flying floor between the thwarts so as to conveniently carry tackle coils on the floor. There will be beds for 274 and hammock space for 86. State rooms for 8 disabled officers, and cot space for 12. The forward wards on the upper deck have one tier of baths for a ward of isolation, or to accommodate more serious cases. The vessel can accommodate 336 wounded men. There are quarters for 4 medical officers, 2 apothecaries and 12 nurses. Near the center of the ship, on the bath deck, is a well ventilated and well lighted operating room, 18x21 feet. As soon as the action is over a launch will tow its barge alongside, receive the wounded and take them to the ambulance ship."

The naval authorities in their naval preparations for a war in which the principal fighting must be on the ocean are carrying the suggestion of the Surgeon-General into effect by purchasing the Cromwell liner Creole, which they have converted into a floating hospital to accompany the North Atlantic Squadron. Two hundred trained nurses have volunteered their services under the leadership of Clara Barton, of the Red Cross Society, and a large number of them have already been assigned to positions; some on the ambulance steamer and others will accompany the army to Cuba.

THE number of practitioners who are willing to call themselves simply physicians, is rapidly increasing, and but for impure motives, would grow much faster. Men are appealed to on all sorts of low grounds to join Sectarian Societies and some do it, "for the loaves and fishes."

How men can deliberately degrade themselves by such acts we are at a loss to see. These men admit that they have no belief in so-called sectarian principles, do not even understand what they are or pretend to practice in accordance therewith, but subscribe to them for the purpose of gaining practice! A noble effort, is it not! We have received numerous letters commending the position taken in the editorial contained in our last issue, in respect to medical unity, and we have had conversations with a number of the best men in the profession, who cordially agree with us.

All agree that the American Medical Association can afford to take the most liberal position toward those who are not members, even to such as are denominated sectarians. It would be a grand move at this time if a plane could be found upon which all could meet, and discontinue sectarian designation.

When two parties disagree the best way is arbitration, and there seems no reason why our ethical differences could not be settled in this way, if we cannot agree between ourselves. Let us ask some eminent men outside the profession to formulate a plan of unity for us.

The first move according to our view would be for the American Medical Association to announce that non-Sectairan designation shall be the only qualification for membership of a candidate otherwise eligible, that is, a duly licensed practitoner of good moral character. No "abnegation of sectarian principles and practice" should be required.

It is impossible at this day to define Sectarian principles and practice.

There are members of the American Medical Association who condemn treatment with drugs altogether, and substitute hydro-therapeutics. They are tolerated because they do not designate themselves as Sectarians—Hydropathists.

The Medical Society of the State of New York is without a Code of Ethics, and will remain so, hence its members cannot be affiliated with the American Medical Association until its code is changed to admit of this.

All agree that this code is a "dead letter," then why keep it to demoralize and degrade its members, who do not pretend to live up to it?

The American Medical Association should be placed upon so broad a basis, that every practitioner of suitable standing, could and would become a member through his local Society. Then the organization would be equal to much greater good than it can be when resting under the charge of fostering "bigotry and intolerance." Who dares make the move which will make this organization the strongest of its kind in the world, and the admiration of all believers in freedom of thought and action?

THE Superintendent of the State Insane Hospital, at Middletown, who also fills the chair of mental diseases in a medical college, is in the habit of supplementing his college lectures with a clinical lecture at the hospital, to which he invites the graduating class. The two hours spent in the wards of the hospital in viewing the various types of mental disease seen in an institution of more than a thousand inmates, gives color and form to the teachings of the lecture room and impresses the leading characteristics of the various diseases upon the mind so that they will never be forgotten. We heartily wish that this example of clinical teaching would be imitated by other teachers of mental diseases. The doors of all our State Hospitals, we are confident, would be freely opened under the direction of the Superintendent to this kind of clinical teaching, so much needed by the student and so much neglected by most of the medical colleges. The genial superintendent at Middletown is even more eloquent in an after-dinner speech, when the delicate viands and the generous wines give a stimulant to the brain cells, so that bright thoughts flow in poetic language, than on the rostrum of the lecture room, unraveling the intricate web of science. At the dinner following the rounds of the wards Dr. Talcott never said anything better than his definition of success. He said: "As you enter the arena of hard struggle in your profession, you naturally desire to win success. Men differ in opinion as to the quality and meaning of success. I believe success is simply the attainment by a man of the best possibilities of his nature and circumstances." That is the kind of success which never fails but ever opens to the earnest soul higher and still higher possibilities. This success, the success which is open to everyone, is not for the sluggard, but can only be won by determined effort and patient painstaking labor. If this motto formed a part of everyone's life there would be fewer failures and a vast increase in the sum of prosperity and happiness.

THE period of the disease when whooping cough is most likely to be communicated is a point upon which the profession should be as fully informed as possible, as it is a matter of the utmost importance to the public that the information looked for from the family physician should be as nearly reliable as is possible from practical observation. Dr. Weill states that from a somewhat extended observation he has reached the conclusion that whooping cough is contagious not, as has been generally supposed, during the stage of whooping, but only during the catarrhal stage preceding the whoop, which is the prominent characteristic symptom of the disease. In confirmation of this opinion he states that in three epidemics the fact was conclusive that the infection was contracted from children who had not commenced to whoop. On various occasions he permitted one hundred children who had not previously suffered from whooping cough to be associated in the same ward for twenty days or more with children suffering from the disease during the period of whooping. In only one case was the disease contracted, and in that case the patient from whom the infection was derived was in the very earliest period of the whooping stage. It would be well for every physician to carefully inquire as to the origin of the infection in all cases coming under his professional observation. If there is really no danger of infection during the whooping stage, as Dr. Weill thinks he has proved, the long period of quarantine during that stage is useless and the public will be relieved of a great deal of unnecessary alarm.

A BILL has been introduced into the legislature making it illegal to place the body in the grave until seventy-two hours after it is supposed death has taken place. Notwithstanding the well authenticated cases of being buried alive are few, yet every possible precaution should be taken to prevent so terrible an event, in view of the facts the recent revelations of science have developed. The sound in the mycophone in the hands of a French scientist shows that a nerve may act, or a muscle in a state of electric excitability, producing only a molecular vibration, showing that life still exists in the nerve, however latent.

DR. LYDSON, of Chicago, in a letter to the *Medical Record*, suggests the use of antipyrin as an anaesthetic in those operations where cocaine has been usually employed. He considers its advantages to consist in its absolute safety, its freedom from constitutional effects; the distinct lessening of hemorrhage, both before and after the operation, and the less disturbance of nutrition of the wounded tissue. In urethrotomy he has used with entire success a 10 per cent. solution in a 1 per cent. solution of carbolic acid. The solution is prepared first and allowed to remain in the urethra from five to ten minutes. In the operations upon the nose and throat the new preparation he considers preferable to cocaine.

IN our April issue we called attention to a paper of Dr. Satterthwait, read before the New York County Medical Society, on the Nauheim treatment of chronic heart trouble and obesity, and stated that in this issue we should report the result of treatment upon ourself. Two months' treatment shows a loss of nineteen pounds in weight and a reduction of eight inches in measure about the waist, with a marked increase of strength and a greater freedom in breathing.

THE dog in the manger fable is illustrated in the recent protest addressed to the Spanish Government by the Spanish Red Cross Society in Havana, against the work of the American Red Cross Society under Miss Barton in relieving the terrible suffering of the sick and starving in the island. The Spanish Red Cross Society had done absolutely nothing of the work which they were supposed to have in charge, but when Miss Barton and her assistants came forward with hospital materials which were needed, as well as nurses, they were insulted and a protest entered against their work.

THE Berlin correspondent of the *Therapeutic Gazette* says the mixed or secondary infection of diphtheria, which is known to be complicated with pus germs, is now very successfully treated in that city by tincture of myrrh given in doses of about 1-100 of a drop at frequent intervals. The writer accounts for the curative action of the drug on the ground that as in all pus cases we find leucocytosis, and as it has been shown by Biaz and others that the white blood corpuscles, which when abnormal the condition is termed leucocytosis, are increased four times by the use of the tincture of myrrh, and therefore, when this condition is found in disease, in accordance with a well known law, the tincture of myrrh, in minute doses, frequently repeated, may arrest the trouble.

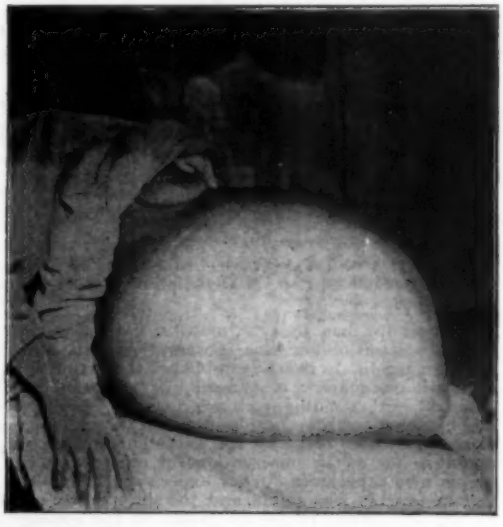
A WRITER in the Canada *Lancet* says itch can be cured in two hours by an application of a mixture composed of three ounces of sulphur and six ounces of quicklime, boiled together with two pints of water, and allowed to cool. The patient is rubbed all over with soft soap for half an hour, placed in a tepid water bath for another half hour, then rubbed with the solution, which is allowed to dry for a quarter of an hour, when a general bath is given. The only objection which occurs to us is that it might produce inflammation if the skin is more than usually delicate.

HOSPITAL REPORTS.

OVARIAN TUMOR.

By Walter F. Morgan, M.D., Leavenworth, Kan.

Lucy L., colored, aet. about fifty. Ten years ago had pneumonia. The physician who treated her at the time observed that the patient was also suffering from an ovarian tumor, and his diagnosis was confirmed by several other physicians and specialists. The patient declined operative treament. Soon after recovering from pneumonia she came under the care of Dr. Eliza K. Morgan for metrorrhagia.



Dr. M. confirmed the previous diagnosis, as to the presence of an ovarian tumor, which was then easily outlined and somewhat larger than an ordinary fist. About eight years ago I saw the case in consultation. The tumor had then increased, especially as to its fluid contents. Dr. E. K. Morgan has been the attending physician in the case since first called to her about ten years ago, during which time I have had frequent opportunities of observing the steady growth of the tumor, until it has attained its present enormous size, as shown by the photo. For the past six years the attacks of metrorrhagia, associated frequently with very profuse watery discharges, have ceased. These discharges of blood and water were confined mostly to the first four years of treatment.

To-day, April 18, 1898, I was surprised to find that, de-

spite the great emaciation and small frame of the patient, she weighed 214 pounds, height, 5 feet 2¾ inches; girth around abdomen 5 feet 5¼ inches. Respiration, 32; pulsations, 100. The heart and lungs are sound, but of course are laboring at a great disadvantage and in very close quarters.

Various remedies have been employed, but at present nothing seems to give decided relief except morphine sulph., begun two years ago in one-eighth grain doses, increasing gradually until now she takes from one to five grains a day. She has been allowed to take only enough of the anodyne to mitigate her sufferings, which at times are very acute.

The patient rarely has any elevation of temperature, and is usually remarkably bright, and even cheerful. It seems probable that her small, emaciated body weighs scarcely a third of the total of 214 pounds. Tapping would probably give much temporary relief, but to this, as to all other surgical treatment, the patient is unwilling to submit. Upon visiting her to-day I found her trying to work in the garden and was told that she can still remain upon her feet for an hour at a stretch. About one year ago a goiter began to develop and is now the size of an egg. When lying down the patient is obliged to take hold of a rope, suspended above her bed, in order to either arise, or to turn from side to side. The most interesting feature of this case seems to be the remarkable tolerance shown by the system, as a whole, in becoming gradually accustomed to so much pressure upon the vital organs.

BIBLIOGRAPHICAL.

ARCHIVES OF THE ROENTGEN RAY—The only journal in which the transactions of the Roentgen Society of London are officially reported. Edited by W. S. Hedley, M.D., and Sidney Rowland, M.A. W. B. Saunders, Philadelphia, Feb., 1898. Price $1.

This publication is important to those interested in the subject of which it is the exponent.

INTERNATIONAL CLINIC. Vol. IV. Seventh Series. January, 1898. J. B. Lippincott Co.

This volume, in an unusually able series of articles, is in touch with almost every department of our profession, by some of its ablest teachers and writers. Dr. Bartholow discourses with his usual ability upon a new departure in therapeutics. Papers of rare excellence are given on medicine, neurology, surgery, gynecology, obstetrics, opthalmology, laryngology, rhinology and dermatology.

THERAPEUTICS OF INFANCY AND CHILDHOOD, by A. Jacobi, M.D. Second edition. Philadelphia: J. B. Lippincott Co. 1898.

No specialist has brought more of earnest thought, of careful analysis and of close observation in the sick room than Dr. Jacobi. In 1860 he established the first systematic course, in our country, of clinical instruction on children. The first edition of this work was devoted mainly to diet and hygiene and the consideration of the action of medicines. The story told was not gathered from text-books, except so far as the observations of others were verified by his own experience. That experience in clinical and private practice was ample, and the story slowly unfolded by the bedside and in the laboratory, in the etiology and symptomatology of disease and in chemical analysis expanded into a text-book of rare value. The problem worked out in the second edition is along the same lines as in the first, every page having been scrutinized and almost every chapter rewritten.

THE NERVOUS SYSTEM AND ITS DISEASES. A Practical Treatise on Neurology, for the Use of Physicians and Students. By Charles K. Mills, M.D. With one hundred and fifty-nine illustrations. Philadelphia: J. B. Lippincott Co. 1898.

The rapid progress made in the diagnosis, character, and treatment of nervous diseases since the great, and at the time of publication, exhaustless work of Gowas was issued, requires a more thorough presentation of the entire subject than was at that time possible. The introductory portion of the work comprises a summary of the embryology, anatomy, physiology and chemistry of the nervous system, and a consideration of the general pathology, etiology and symptomatology of nervous diseases, with the methods of investigating them and the best measures applicable in their treatment. Close attention has been given to the subject of localization, with regard to all portions of the encephalon—the ganglia, and other structures at the base of the brain, the cerebellum, the pons, and the oblongata as well as the cerebrum. Under cerebral localization are given the results of the latest researches and observations, including the discoveries springing from the newer histological methods. Diseases of the membranes, sinuses and veins of the brain are considered separately from arterial diseases. The nomenclature and terminology advocated by Prof. Wilder, of Cornell University, have been used in most cases. The author has utilized in the construction of his work, the literature of the world on his specialty, with results for which the profession give him hearty thanks.

HOW TO BECOME A TRAINED NURSE: By Miss Jane Hodson, Directress of Nurses, State Hospital, Fountain Springs, Pa.; Ex-Matron of the House of Relief, Hudson Street, New York; Graduate of the New York Hospital Training School. William Abbatt, Publisher, 31 Nassau Street, New York. One Vol. 8vo. 266 pp. Nearly 40 Full-Page Illustrations—One in Colors—and Gilt Side Stamp.

When we consider that Bellevue Hospital began its school for nurses in 1873, it is remarkable that heretofore no book has appeared to enable young women to choose between the many different schools and to know something about the details of the profession they wish to enter.

Miss Hodson's book is well calculated to judiciously advise all such. It gives details of over 300 schools—size, pay, hours, rooms, instruction, number of cases treated in the hospital, etc., and a list of other things—all useful, and evidently requiring a great deal of research for their compilation.

MAMMALIAN ANATOMY: A Preparation for Human and Comparative Anatomy. By Horace Jayne, M.D., Ph.D., Director of the Wistar Institute of Anatomy and Biology, Professor of Zoology in the University of Pennsylvania, Fellow of the College of Physicians of Philadelphia and of the American Association for the Advancement of Science; Member of the American Philosophical Society, the Academy of Natural Sciences of Philadelphia, the American Society of Naturalists, the Association of American Anatomists, etc. Part I. The Skeleton of the Cat; Its Muscular Attachments, Growth and Variations, Compared with the Skeleton of Man. With over Five Hundred Original Illustrations and Many Tables. Philadelphia: J. B. Lippincott Company, 1898. Pp. 816. Large octavo.

This volume is the result of a course of instruction instituted some years ago by the author, for the purpose of the study of the structure of an inferior animal, preparatory to the study of human anatomy. The cat was selected as approaching more nearly to man in certain anatomical regards than the dog.

The course of study has proven successful and hence this text-book. This treatise is regarded as a monograph on a typical mammal and may be employed as an introduction to general comparative anatomy preparatory to human anatomy.

The text shows that the subject has been thoroughly elaborated, as it includes a systematic study of every bone and of the regions they form when joined together. The corresponding bone in the human skeleton is then carefully compared with it.

All the illustrations of the bones of the cat have been drawn and engraved expressly for this work. The effort to make such a book is certainly stupendous. The physical part is, as might be expected, superb.

A COMPENDIUM OF INSANITY: By John B. Chapin, M.D., LL.D., Physician-in-Chief, Pennsylvania Hospital for the Insane; Late Physician-Superintendent of Willard State Hospital, New York; Honorary Member of the Medico-Psychological Society of Great Britain and of

the Society of Mental Medicine, Belgium, etc. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 234. 12mo. Price $1.25.

The purpose of the author has been to present in a condensed form a clear and concise statement of the clinical aspects of the various mental deviations, together with directions as to the most approved methods of management and treatment. It will prove helpful not only to the medical profession, but to the legal as well, and even the layman will find its language quite untechnical, interesting, and replete with valuable information for practical use. It is an excellent little book.

THE SURGICAL COMPLICATIONS AND SEQUELS OF TYPHOID FEVER. By William W. Keen, M.D., LL.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Vice-President of the College of Physicians of Philadelphia; Member Correspondant Etranger De la Societe de Paris; Member Honorarie de la Societe Belge de Chirurgie. Based upon tables of 1,700 cases, compiled by the author and by Thompson S. Westcott, M.D., Instructor in Diseases of Children, University of Pennsylvania, Visiting Physician to the Methodist Episcopal Hospital, Philadelphia; with a Chapter on the Ocular Complications of Typhoid Fever by George E. De Schweinitz, A.M., M.D., Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia and Orthopedic Hospitals; and as an appendix The Toner Lecture No. V. Philadelphia: W. B. Saunders, 1898. Pp. 386, octavo. Price $3.

This volume contains a most careful study and elaborate analysis of a very large number of cases of typhoid fever from the surgical point of view, and the work is ideal in its class. The work is as worthy of study by the physician as the surgeon, for both will have to do with such cases. The table of contents is well stated for reference and the illustrations are excellent. In a word we may say that the work is classical as well as eminently scientific.

ATLAS OF METHODS OF CLINICAL INVESTIGATION, with an Epitome of Clinical Diagnosis and of Special Pathology and Treatment of Internal Diseases. By Dr. Christfried Jakob, Formerly First Assistant in the Medical Clinic at Erlangen. Authorized Translation from the German Edition by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, etc. With 182 colored illustrations upon sixty-eight plates and sixty-four illustrations in the text. Philadelphia: W. B. Saunders, 1898. Pp. 260. Price, $3.

The methods of clinical investigation contained in this volume from Selections of the most important conditions, will enable the practitioner to gain more through illustrations than he could from elaborate description.

We have plenty of books on clinical medicine, but this one is different from any, and has become justly popular in its native country. It has been adapted to our own language by free translation, concise phraseology, and an index has been added. The illustrations are excellent, and the accuracy is vouched for. The epitome of clinical diagnosis and of special pathology with treatment forms a concise and valuable portion of the work. Directions for the examination of the patient will be found eminently useful, as will also the therapeutic notes and dietetic methods.

The whole forms a convenient home-book at a popular price for such work.

The Charles Roome Parmele Co., manufacturing chemists, have issued a pamphlet covering the clinical experience of "Arsenauro and Mercauro," so far as it has appeared in print since it was first used. There are some important points respecting dosage which our readers will be glad to see. No manufacturer has tried harder than the Parmele Company to deal honorably with the profession and upon strictly ethical grounds. These remedies must possess unusual merit, or so much would not be said in their favor by some of the best men in the profession. The writer has also used the preparations to a large extent with the best results in a majority of cases. Any reader may obtain a copy by mentioning this journal.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

MEDICAL SOCIETY OF PHYSICIANS.

Sparteine in Parkinson's Disease—Paralysis Agitans.—M. Tison: For many years, picrotoxine, sulfate of sparteine, borate of soda, duboisine, and hyoscyamine have been employed in this disease. Among these remedies there is one which I have had occasion to use frequently during the last two years. The sulfate of sparteine, and have had excellent results from it. We know that it is an alkaloid, taken from the genista scoparia, heretofore ranged among the genus spartium, which comprehends only the Spanish genista—spartium junceum. It is an excellent cardiac remedy that promotes diuresis by augmenting the pressure of the arterial system. The dose ordinarily prescribed is 10 centigrams daily in a suitable vehicle, teaspoon to tablespoonful every two hours. Sparteine does not accumulate in the economy, so it can be continued for many months in the treatment of paralysis agitans with advantage. In this disease it is not very diuretic.

M. Delisreau.—M. Tison has said that sparteine has not produced diuresis in his patients. This is, however, the most constant effect of this remedy. I would add that sparteine lends itself readily to subcutaneous injection, and in this form very good results are obtained. M. Tison.—Many remedies cause urination only at certain times. I administer the sulfate of sparteine in doses of 10 centigrams daily for months, the drug being eliminated in proportion to its absorption; have never employed it by injection subcutaneously; as a rule, I never have recourse to this method, except when necessary, and not from choice. M. Lebloud.—One of the most prominent symptoms of paralysis agitans, as stated by M. Tison, is the sensation of heat of the skin. During the day the patient experiences no trouble, but when night comes the suffering is so great as to cause hallucinations; in one case the patient died, no remedy seeming to afford any relief.

ANATOMICAL SOCIETY.

Calculus in Vater's Ampullus, with Cirrhosis.—M. Rabe exhibited an obstruction of the choledochus by two calculi, one of which projected into the ampullus of Vater. The biliary passages were dilated, same with gall bladder, which is contrary to the rule; the liver affected with atrophic cirrhosis, periportal sclerosis, but not involving the biliary canaliculi. Trunk and branches of vena portae thrombosed by an old phlebitis. Hepatic cirrhosis did not exist in the cases of calculi in Vater's ampulla that were presented by M. Griffon to the Society; it does not seem to be a direct consequence of biliary obstruction.

Congenital Ectopia of the Kidney.—M. Apert presented specimens of a case of congenital anomaly of the situation of the kidney found on autopsy of an alcoholic dead from pneumonia. The left kidney was in its normal place, ectopia of the right in the pelvis before promontory. Cadaver presented another malformation. The right lung was divided into four lobes. M.M. Peraire and Mally exhibited a polydactyl case with radiographic proof, in a man of 50 years, who had six fingers and toes on hands and feet.

SOCIETY OF PEDIATRY OF MOSCOW.

Treatment of Infantile Syphilis by Subcutaneous Injections.—M. Fedtschenko: The preparation which affords the best results in these injections is the benzoate acid of mercury. They were administered to 200 children, aged from a few days to nine years, the majority of them from two to five months. At same time other syphilitic children were treated by mercurial frictions, sublimate baths, etc. The benzoate of mercury mixed with an equal quantity of chloride of sodium is dissolved in water at ½ per cent., within the age of one year, 1 per cent. after a year, and 6 per cent. after six years. The dose for injection at a single time varies according to the age of the child, and ranges from 0.001 gr. to 0.002 for children below one year, and 0.006 to 0.02 in those of six to fourteen years. The injections are well borne, and should be continued until the external appearances of syphilis have

completely disappeared. Most generally three to six injections suffice to produce this effect, nine injections are sufficient for tertiary syphilis. They never cause local or general accidents. In this treatment relapses are exceptional.

Action of Saliva on Microbes.—M. Triolo has investigated the action of simple and mixed saliva upon different varieties of microbes. After disinfecting the mouth, so as to have the saliva, as nearly as possible sterile, he immediately filtered the total amount secreted. Then to procure the saliva in different conditions he introduced sterilized canulae into the excretory canals of the glands. The results obtained are somewhat contradictory of those observed upon the bactericidal action of saliva, which seems to be due to the means employed. Filtered saliva has no bactericidal power. The mixed, fresh, and non-filtered saliva kills various microbes when cultivated for five days, staphylococcus aureus, bacteria, Eberth's bacillus etc., and only reduced the number of microbes cultivated for 18 hours. There is no notable difference between the saliva of the parotid and submaxillary glands. The principal action of the mixed saliva may be attributed to the secretion of the muciparous glands especially.

ACADEMY OF SCIENCES.

Treatment of Chorea by Hypodermic Injections of Ether.—Of the great number of remedies that have been recommended and tried for the cure of the above disease, none of them have, as yet, developed any specific power. Many of them are capable of producing grave complications, as may readily be understood, the pathogenesis of chorea not being clearly elucidated. Among those employed may be cited the salicylate of soda, arsenic, antipyrine, strychnine, sulfonal and exalgine. The tartrate of antimony in large doses was highly recommended by Gilett in 1857, afterwards by Roger in 1864. In a child of seven years, affected with the chorea of Sydenham, after the failure of the ordinary remedies, the injections of five drops of sulphuric ether produced a favorable action upon the progress of the disease, with manifest abridgment of its duration, and in all cases a rapid diminution of its intensity. Dupuy and O. Kounkoff have studied their effects in chorea in the algid period, and in cases of prostration observed in pneumonia, typhoid fever, etc. Kums has also employed them in hepatic colic, and the collapse following copious hemorrhages. Injections of ether may be succeeded by serious accidents of mobility and sensibility, and according to Feaux and Wallace, by paralysis. But such cases are extremely rare, particularly if a selection is made of a region poor in nerves and vessels and rich in adipose tissue. Pulverizations of ether along the whole length of the vertebral column are also useful in procuring speedy temporary relief.—*Dr. Kohos.*

SURGICAL SOCIETY.

Pathogenesis of Salivary and Biliary Lithiasis.—M. Hartmann: In a communication made by M. Livson, concerning ablation of Wharton's duct, a special point deserves mention, viz.: bacteriological examination of the calculus, by which the presence of the streptococcus in its center was proved. M. Mignot has also observed the same pathogenesis in biliary calculi. In seventy cases microbes, particularly the coli-bacillus, were found in twenty-three of these stones, and in many instances in the bile. This result establishes the infectious origin of biliary lithiasis.

SURGICAL SOCIETY OF LYONS.

Intervention in Fractures of the Cranium.—M. Albertin: From personal experience and a critical investigation of this subject, I deduce the following: First, In case of a wound of the cranium, and in the absence of every external sign of fracture, examine carefully if there exists any solution of continuity of the accessible portion of the cranial arch, and in order to do this an exploratory incision of the scalp will be of the greatest service. Second, The use of the trephine is indicated along the track of the fracture if cerebral symptoms exist, however slight they may be, and parting from the fracture, on the side of the centers of localization, should the cerebral phenomena observed indicate it. Third, In the presence of comminuted fractures it is necessary to remove the scales, leaving in place such fragments as are susceptible of vitality, also limiting as much as possible loss of substance. Fourth, Jacksonian epilepsy, connected with localized traumatism of the cranial arch justifies trepanation, a fact admitted by surgeons generally.

MEDICAL SOCIETY OF THE HOSPITALS.

Suprarenal Opotherapy.—Presentation of a case of Addison's disease cured since three years. M. Béclère exhibited a young man of twenty-eight years, affected with bacillosis, with no very marked pulmonary lesions, and presenting a complete specimen of Addison's disease. He was relieved in a short time of all his symptoms, including melanoderma, the tint of which is very much attenuated. The point of special interest in this case is that the patient was cured by being subjected to suprarenal opotherapy in different forms; viz.: the ingestion of fresh suprarenal capsules and subcutaneous injections of the hydro-glycerinated extract of the suprarenal glands of the calf. No convulsive accident followed the treatment, which no doubt contributed greatly to the cure of the patient. M. Béclère established a comparison between suprarenal opotherapy in Addison's disease, and thyroid opotherapy in myxedema. The following are his conclusions: In the latter the beneficial action of the thyroid treatment manifests itself early in the treatment, in the former, on the contrary, not less than two months intervene between the beginning of the treatment and the first appearances of improvement. In the myxedematous the benefit of the thyroid medication is essentially temporary, the patients being obliged to continue it indefinitely, while in the case under consideration—Addison's disease—the treatment was continued for five months, afterwards suspended, but the improvement went on to a cure, which has continued for three years. These fundamental differences between the effects of suprarenal opotherapy and those of thyroid, show manifestly that the two forms of medication present no analogy in their mode of action upon the organism. Thyroid medication acts by giving to the organism substances which the myxedematous make in insufficient quantity. As respects the other, the most probable hypothesis as to its mode of action is that it promotes a compensatory hypertrophy of the portions of the supranenal parenchyma that have continued healthy. This hypothesis accords with the result of subcutaneous injections of suprarenal extract in animals. M. Gaillard tried this treatment perseveringly in an analogous case, without result. M. Widal: It was not so in a typical Addisonian with personal tuberculous antecedents, who received and tolerated from ten to twelve grains daily of the suprarenal capsules of the sheep. There was no modification of the pigmentation, and the patient left the service, delighted at the improvement in his strength. But at the end of a few weeks he returned as feeble as before, and with the addition of gastro-intestinal troubles, from the effects of which he soon died. I believe, however, said M. Widal, that opotherapy in Addison's disease is worth trying. There are undoubtedly more chances of success with it when employed soon after the beginning of the disease. M. Hayem: In 1894 I treated an Addisonian with ten to fifteen capsules of the veal daily. As in the case of M. Widal the strength was manifestly improved for two or three months, pigmentation remaining stationary. Improvement lasted ten months, and finally disappeared. Patient died in 1896.

A Particular Form of Diptheroid Angina.—M. Vincent: There exists a form of angina having the appearance of diphtheric angina, but with a special bacillus. This affection is usually unilateral. The false membrane is easily detached at the beginning, but about the third day it covers a veritable ulcer, around it the mucous membrane is erythematous, and there is dysphagia with an engorgement of the submaxillary glands. There is fever, loss of appetite, headache. As soon as the false membrane, which has no tendency to enlarge, is detached the ulceration heals. Under the microscope is seen a fusiform bacillus, ten to twelve points in length, accompanied with spirillae of various forms. The bacillus does not color uniformly, and there exists vacuoles of different dimensions. I have never been able to cultivate it, and it does not seem to be inoculable to animals. The prognosis is not grave, and cure is obtained in seven or eight days by touching with the tincture of iodine and boric gargles. M. Lemoine: I have observed five analogous cases in 300 diphtheric anginae. From a clinical point of view, the angina seems to be prolonged for thirty days and presents the appearance of a chancre of the tonsil.

M. Vincent: The treatment I employ abridges the duration of the affection. The bacillus resembles very much that of hospital gangrene, and it is found in its normal state in healthy subjects.

M. Barbier: Have the cultures made by M. Vincent given any result? M. Vincent: I have sometimes found the streptococcus, staphylococcus, and once the bacterium coli. M. Lemoine: In my observations I have always found the coli bacillus.

M. Legendre: From a clinical point of view, the name diphtheric angina seems to be inexact. This affection approaches more nearly the ulcero-membranous angina. M. Vincent: I would observe that the ulcer is concealed by a false membrane, the glands are enlarged, and there is fever, so that the clinical aspect and bacteriological examination made me think of diphtheria.

Antitoxic Action of the Nervous Centers Against Strychnine and Morphine.—MM. Widal and Nobcourt experimented to see if the central nervous system of certain animals possessed antitoxic powers against strychnine and morphine, such powers as have been recently demonstrated by Wassermann as existing in tetanic toxine. The cerebrum and cerebellum in one part, and the medulla and bulb in the other, were triturated separately immediately after death in a solution of chlor. of sodium (7 : 1000). To the pulp was added a solution of accaloide in such proportion that about 20 centigr. of cerebral or medullary substance was mixed in a dose surely fatal, by subcutaneous inoculation, containing 0 millgr. of the chlorhydrate of trychnine, or 1 centigr. of chlorhyd. of morphine. The mixture was preserved for one or two hours before inoculation. The nervous centers of six rabbits, at indicated doses, protected the animal against a toxic dose of strychnine. In three instances a double dose of a mixture of brain and the alcaloide did not kill the animal, which thus resisted twice a mortal dose of strychnine. The liver, also experimented with in the same manner, showed in five out of seven trials antitoxic properties against strychnine. In four out of five cases the kidney neutralized a mortal dose. The spleen twice in four cases, and the pancreas once in three. In one instance the antitoxic power of the salivary glands, of the marrow of the bones, the thyroid body, the suparenal capsules and the testicles was investigated. The salivary glands only were capable of neutralizing a mortal dose of the poison. The serum and the blood always showed an incapability. In order to reach a definite conclusion it is necessary to experiment with a number of animals. The antitoxic power of the nervous centers is variable, and, in effect, between one individual and another there is an idiosyncrasy as respects susceptibility presented by each to these poisonous influences.

BIOLOGICAL SOCIETY.

The Tetragene in Anginae.—M. Apert.—This microbe, which is sometimes found to be harmless in normal throats, may, in certain cases, acquire virulence, and cause angina of a special form, known as sandy angina. It may also be associated with other microbes and may become very virulent. Tetragenic angina often precedes and accompanies pleural phenomena, and in cases of septicemia from this source, observed by Chauffard, Ramand and Cassaigne, pleurisy existed. Netter, Faisans and Damany have found the tetragene in the fluid of sero-fibrinous and purulent pleurisies.

The Streptococcus of Erysipelas and Marmorek's Serum.—M. Courmont, of Lyons.—Does the serum of Marmorek immunize the rabbit against the pyogenic streptococcus? I, with all the bacteriologists who have experimented with it, answer in the negative. Mr. Lemoine said that before meeting with four streptococcics, that were influenced by the serum, experiences which I have never been able to reproduce, he had isolated a large number, which were unaffected by the serum.

New Experiments Upon the Treatment of Tuberculosis.—MM. Hericourt and Ch. Richet: We have continued the study by entirely different methods, of the experimental treatment of tuberculosis, and our experiences have led us to conclude that injections of the aqueous solution of iodine into the lung, in doses of 0.15 of iodine, do not cure tuberculosis, but they do retard its evolution.

Microbic Inoculations in Different Parts of Circulatory System.—M. Roger: On collating my different experiments made upon 263 rabbits and 16 guinea pigs, I reach the following conclusions:

1. The liver destroys the bacillus of charbon, the staphylococcus and oidium, and makes a good medium of culture for streptococcus and coli-bacillus.

2. The brain, unfavorable to the development of charbon bacillus, is easily invaded by other pathogenic agents. The lung, which acts slightly upon the charbon bacillus and exercises an action a little more marked upon the staphylococcus and coli-bacillus, protects the organism against the streptococcus. It may be concluded, then, that the effects of the contest between microbes and the organism vary totally from one point of the economy to the other, and the final result is very complex.

A New Treatment of Syphilis.—M. E. Lalande, of Lyons.—I have the honor of presenting to the Society of Biology, in my own name and in that of M. Philippe, the result of our experiences during two years, with a new treatment of syphilis. The medicament employed is the result of the prolonged action of the chloride of sodium upon organic matter rich in keratine, and contains upon analysis the following per liter:

Gelatine	5 gr. 10
Phosphate of lime	0 gr. 30
Sulfate of lime	0 gr. 30
Sulfuret of potassium	traces
Chlor. of sodium	8 gr. 37

This liquid is introduced into the organism hypodermically, the injections made, according to the nature of the case, every eighth day, every second day, or even every third day, either in the lumbar region or in the supraspinous region, quantity injected varying from 1 to 3 cubic centimeters.

The phenomena observed are as follows: Immediately after the injection redness, accompanied with slight pain, appears at the point of puncture, but disappears in a few moments. The liquid is easily absorbed, and leaves no induration, and of more than 3,000 punctures made, I have had but three abscesses, of which two were clearly due to careless injection of an excess of the chlor. sod., which had been reserved for external use. The temperature increased some tenths to the maximum of a degree three hours after the injection, and reached the normal at the end of five hours. This elevation of temperature is sometimes accompanied by diaphoresis, somnolence, and specially comfortable sensations, no albumen in the urine, and slight increase of urea. All these phenomena disappeared after the third injection, and new injections caused no further reaction. From this time on, particularly if care was taken to observe longer intervals between the injections, an amelioration of the syphilitic lesions was produced with a steady retrogression of accidents. In all cases treated the lesions were bathed in boiled water, and occasionally for vulvar and perianal hypertrophic spyhilides cauterization with the nitrate of silver was employed. It may be added that in my personal observations I have had many cases of eczema, one case of psoriasis, and a case of lupus of the face (which had been operated upon several times, but returned), but which were completely cured by the same treatment, which tends to prove, if new observations should occur to be added to these, either that the domain of syphilis is more vast than is generally supposed, or that the therapeutic action of our treatment extends to other nosological forms than syphilis.

SOCIETY OF DERMATOLOGY.

Premycosic Dermatosis.—M. Du Castel presented a patient whose skin had the appearance, in certain places, of the skin of an orange. Upon the thorax there were erythematous patches with desquamation of the surface, lymphatic glands everywhere swollen, the patient sweated enormously. The microscopic lesions, those of acanthous mycosis, examination of the blood confirmed the diagnosis—there was no leucocytosis, but lymphocytosis was found (47 mononclear lymphocytes to 100 leucocytes).

Epithelioma of the Face Cured by Applications of Arsenious Acid.—M. Hermet presented a patient with epithelioma of the face. Arsenious acid was applied, leaving the ulcerated surface exposed to the air (Cerny's method). The patient was attacked in October, and in the early days of January the neoplastic tissue was destroyed and complete cicatrization obtained in February. He had already been treated unsuccessfully with the chlorate of potass. M. Hermet employed three solutions of the acid in equal parts of water and ethylic alcohol. The first at 1-150 was applied to the ulcerated surface; the second and third successively upon the cicatrix. When the pains

were very violent hypodermic injections of chlorhydrate of morphine. After the falling of the eschar, the fleshy projections were dressed like any simple wound.

Curative Action of Calomel by Intra-muscular Injections upon Ulcers of the Legs.—MM. Gaston and Anghelorici: Calomel thus introduced into the organism has an evident curative action upon ulcers of the legs in the absence of syphilis or tuberculosis.

Trials of Hemotherapy and Serotherapy in Syphilis.—M. L. Julien injected a recently infected and vigorous girl with blood taken from the uterine cervix of an old tertiary syphilitic, with no effect upon the evolution of syphilis Other patients were injected with the fluid of ascites taken from a case of syphilitic cirrhoris. No result in one case, but in the other the injections produced the effect of mercurial treatment, suppression of the accidents, and an amelioration of the general condition.

"Syncytioma Malignum."—Upon Tumors Designated "Malignant Syncytioma."—M. Gebhard, Berlin: The author reports three cases of malignant tumors of the chorion, very carefully studied from a clinical and anatomo-pathological point of view. In these cases there were tumors of the chorion formed at the expense either of the syncytium, or of the layer of Laughaus of the chorion. He admits, with Marchand, that the protoplasmic portion of the neoplasm is formed at the expense of the chorion, while the cellular portions are derived from Laughaus' layer. Microscopic examination of the masses showed him, moreover, that the epithelium of the uterus may be transformed into a malignant syncytioma. Hence, he concludes that there must necessarily exist certain etiological relations between the uterine epithelium and these neoplasms, which have not yet been clearly established. It would be well to hesitate upon a precipitate diagnosis of "syncytioma," because certain forms of uterine carcinoma singularly resemble it, and that, too, in unimpregnated women. In one case of unmistakable uterine carcinoma, the epithelial elements of the uterus recalled in an extraordinary way the appearances observed in malignant syncytioma.

Vesico-uterine Fistula of Rare Origin.—M. Savare, Vienna: This occurred in a woman of 34 years, who because of a contracted rachitic pelvis, had, five years previously, undergone a Cesarian operation in a labor before term. The uterine suture was made with silk threads, and one of them had penetrated the bladder during the operation. There ensued a vesico-uterine fistula, which remained latent for a long time. Around the thread, which had traversed the bladder, a collection of phosphates had formed, and there was besides a slight degree of cystitis. Later on the woman became pregnant for the second time, and at the eighth month another Cesarian operation was performed. But this time the fistula, which had been latent, now became marked. The urine passed into the womb, and caused a septic endometritis, to which the patient succumbed. There are only two cases of vesico uterine fistula reported in literature—Ferras and Deroubaix; and three of vesico-cervical—Liegmann, Beuckser, Courant.

New Pathogenic Theory of Osteomalacia.—M. Schoffaender, Heidelberg, relates three cases of puerperal osteomalacia, which terminated in cure after Porro's operation of ovarian castration. The extirpated ovaries were submitted to a very thorough microscopic examination. The results of which were such as to suggest to the author a new pathogenic theory. In accord with certain other authors he considers osteomalacia as an angio-dystrophy of the ovaries. This way of looking at it is opposed to the generally accepted opinion, according to which this disease is directly due to chronic ophritis. The etiological relations between osteomalacia and the pathological modifications of the ovaries are thus interpreted by the author. They are purely hypothetical. The diseased ovaries secrete a chemical substance, as yet undetermined, which passes into the general circulation, and into the skeleton. This substance should have the power to dissolve the phosphates and carbonates of the skeleton. It is also secreted by the ovaries in a normal condition, but in a pathological condition, there is a hypersecretion, and osteomalacia is then produced.—*Centralblatt fur Gynacologie.*

CHOLECYSTOTOMY.*

By W. O. Roberts, M. D.,

Professor of Surgery and Clinical Surgery in the University of Louisville, etc., Louisville, Ky.

Two years ago I operated upon a case of abdominal tumor for my friend Dr. Turner Anderson. The tumor was situated in the region of the gall bladder; the patient had profound jaundice with a history of gall stone colic. Dr. Anderson had diagnosticated a distended gall bladder, and invited me to do the operation. When we cut down upon the tumor we found it to be the gall bladder which was greatly distended. I aspirated it, then drew it up into the abdominal incision; the fluid that came from it was like clear serum and eight ounces in quantity. After emptying the gall bladder, I passed my finger into it and found no stone, but in passing my finger into the abdominal cavity a stone was discovered impacted in, as I thought, the upper part of the common duct. It was removed by being teased up with my finger until the scoop could be passed under it. It was the only stone found. The gall bladder was then stitched to the abdominal wall and the woman put to bed. The next day she had a fecal evacuation that looked like cream. The following day the action was very much darker in color, and the evacuations grew steadily darker until they became normal, and the jaundice gradually but slowly disappeared A fistulous opening resulted at the site of the operation from which she continued to pass more or less bile. She went home from the infirmary and was in very good condition until a few weeks ago, when she had a violent attack of colic, and since then she has had several chills with fever. I sent her back to the infirmary, and day before yesterday we operated again. I opened the original wound and found deep down another stone which was broken in handling after it was gotten out. This stone was perfectly round.

Remarks.

Dr. A. M. Cartledge: This is quite a remarkable case—a gall bladder distended with mucus. At first this obstruction must have been of the cystic duct, otherwise we could not have had the gall bladder distended with mucus. I do not think it is considered, as a rule, possible to remove a stone from the common duct through the cystic duct, but with a very small stone just at the notch it might be removed in this way. I have had several such cases, and it is my experience that where we have recurrent attacks of jaundice, though you may remove one stone through the cystic duct, there are still other stones; they may be of small size and play around, as it were, in the common duct. It is possible that small stones may be removed from the common duct, but usually when you try to remove them in that way it will be found impracticable; sometimes they work their way out through the cystic duct. I fancy the second stone in Dr. Roberts' case was up in the hepatic ducts at the first operation in such position that it could not be felt. Or it may have been deep down in the cystic duct. That there was some obstruction of the common duct is evidenced by the fact that the patient had jaundice. I really believe if the first stone was removed from the common duct that the second stone was the original cause of the jaundice, that it was playing around in the hepatic ducts, and finally by drainage passed out into the cystic duct and then into the gall bladder.

Dr. James Chenoweth: Several questions of interest are brought up by the report of this case. I have had three cases recently in which stones were removed from the common duct with two recoveries. A number of points suggested by Dr. Roberts' remarks are important. First, the question of jaundice with a stone in the common duct. I reported a case several years ago, the first gall stone operation I performed, in which I did a cholecystotomy, removing a stone from the cystic duct, and sutured the gall bladder and dropped it back into the cavity. The woman was jaundiced before the operation,

* Reported to the Louisville Surgical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

evidently from pressure of the stone in the cystic duct; there was no stone in the common duct. She made a perfect recovery and has had no trouble since; it has now been four years since the operation. Cholecystotomy in that case was an ideal operation, but I have since felt that I did a very risky thing in closing the gall bladder, even though I could find no stone in the common duct.

Dr. Cartledge has just recalled a case where the patient had a temperature of 105 degrees Fahr. I removed eleven gall stones from the gall bladder, also one from the common duct which was pushed back into the gall bladder An examination, which was as thorough as possible under the circumstances, failed to reveal any more stones. In less than two months after this operation, the fistula having closed, she had colic and jaundice and was operated upon the second time. An incision was made to the inner side of the fistula and three inches in length and extended to the common duct, which was incised and one stone removed. Six months later I opened the common duct the second time and removed three stones.

Fenger in his article on the removal of stones from the common duct advocates that the duct be palpated from below upwards, but I think this increases the risk of losing a stone in the hepatic duct. In the case above referred to in carrying my finger along from above downward I thought I felt two stones. Dr. Cartledge, who stood on the opposite side of the table, asked to make an examination, carrying his finger from below upward; he said he could only feel one stone. It was evident to me that one had disappeared into the hepatic duct, as I was certain I had felt two. After opening the duct and removing one stone I was unable to locate any more, and it was a question whether I was mistaken in having felt the second stone. The patient made a good recovery from the operation.

Later she had colic, and I removed three stones from the common duct which was incised a second time, and am satisfied that these stones were in the hepatic duct at the previous operation. She also recovered from the second operation and is well now, eighteen months later. I believe it is risky business to close the gall bladder, even though you cannot locate any more calculi. The second time that I operated on this case I passed a sound down through the fistula into the common duct, which served to distinguish and raise the duct and at the same time prevent the stones from slipping up into the hepatic duct, and with my finger below removed the stone without any difficulty.

In one of the cases just mentioned I made an attempt to dissolve a stone that I believed to be present in the duct. After making an opening into the gall bladder I injected a drachm or two of ether into the duct through a long catheter. There was a sharp burning pain for a few seconds which passed off, and two days later the fistula, which had been open for two months, closed. Bile appeared in the intestines and continued until after the second operation, although her colic commenced again in about a month. For three weeks it seemed that the obstruction had been removed by injection of the ether; I did not flatter myself, however, that the stone had been dissolved by the injection, but rather thought that some of the soft material that had probably been precipitated around it had been delivered and allowed some bile to pass the small stones. This was probably the case, as I afterward removed three stones from the duct.

Dr. W. C. Dugan: I would like to emphasize the point made by Dr. Cartledge, in regard to opening the gall bladder and leaving it open for the stones to work out of themselves in case they are not all removed at the operation. I also desire to join Dr. Chenoweth in his protest against closing the gall bladder and dropping it back in the cavity. I operated on a case not long ago removing a stone from about the opening of the hepatic duct. And notwithstanding the fact that there were no stones in the gall bladder at the time, we afterwards removed several showing that the stone were in the hepatic duct, or up in the liver, coming down into the gall bladder after the primary operation.

Dr. W. O. Roberts: The stone which I removed was the only one I could find, although I made a very careful examination. This stone must have been, as Dr. Cartledge says, in the cystic duct to account for the clear serous fluid in the gall bladder. The question arose at the subsequent operation whether or not the stone found at that time had been formed since the first operation, or whether it was present previously and was not detected. I believe it must have been in the hepatic duct and was not detected. I was in hope some of the Fellows would state as to whether they have had occasion to operate and have found stones the second time that were not present at the first operation. We know that stones in the urinary bladder sometimes form very rapidly, especially after an epicystotomy.

OVARIAN CYST.—FIBROMATA OF THE OVARIES.

REPORTED BY LEWIS S. McMURTRY, M. D.

This is a specimen of ovarian cyst removed this morning and it is of no special interest except for one thing. The cyst was removed from a young woman aged twenty-four years, and the leading symptom was persistent and constant irritation of the bladder. She consulted me for that complaint. The history was that she had married a year ago last November, and was suffering with slight irritation of the bladder at the time; she suffered very severely during November, December and January, and in February, 1897, she had a miscarriage at the fifth month. The pregnancy and miscarriage made no difference in her symptoms. She had to get up every half-hour during the night to empty her bladder. The urine is normal and a careful examination of the interior of the bladder revealed nothing abnormal, but I detected by bimanual touch this cyst. Upon opening the abdomen the cyst was found attached to the bladder. I think it probable that was the cause of the vesical irritation, and the specimen is of interest on that account.

Case 2. The next specimen is a very unusual one, being filbromata of the ovaries. The adhesions were extensive and both tumors had to be dug out of the pelvis; the excessive oozing necessitated drainage. The patient made an easy recovery. These tumors of the ovaries are rare.

Dr. J. M. Mathews: Bearing on Dr. McMurtry's case of cystic tumor: A number of months ago a young lady consulted me from an interior town in Kentucky, stating that she was visiting in St. Louis, that while there she had considerable pain in the bladder, with difficult micturition and consulted one of the most distinguished surgeons in that city. Upon examination he detected an ovarian tumor, small, it is true, but he did an abdominal section and removed a cystic ovary, believing that this was the cause of the frequent desire to get up during the night, also during the day every few minutes, to make water. Months after that she reported to my office, having returned to her Kentucky home, and saying that she was no better. Every half hour in the night she has to get up to empty her bladder and micturition is necessary nearly as frequently during the day. I told her the best thing she could do was to go back to St. Louis and see the surgeon who performed the operation. She did so. He then detected upon careful examination a floating kidney, and wrote me that he was certain the cause was now found, that he had overlooked the floating kidney in his first operation, although he carefully examined for it. Therefore he has done a second operation, stitching the kidney. Whether the patient is now relieved of her trouble I do not know, as she has not been to see me since the last operation.

Dr. I. N. Bloom: I remember at one time I was called to see a case with Drs. Brandeis and Yandell in which the diagnosis of probable malignant disease of the colon was made. The case was one of long standing; the patient had become materially emaciated. No operative procedure was carried out, and in the course of the disease decided symptoms of bladder irritation developed, with an uncontrollable desire to frequently pass water. Micturition was performed twenty to twenty-five times a day. At night, however, the patient slept under the influence of hypnotics. The urine was perfectly clear and clean. As we could make out no tumor or anything else to account for the vesical irritation, we came to the conclusion

that it was probably neurotic. After the patient's death, upon post mortem, extensive adhesions were found between the intestine and the bladder, showing that the condition was not neurotic as we had supposed.

Dr. L. S. McMurtry: In regard to the case of bladder irritation: Of course the operation has just been performed and it is entirely too early to predicate the ultimate result will be. I first saw the patient a month ago, and endeavored to eliminate every possible cause before doing the section. As stated the bladder was carefully examined previous to the operation and no abnormal condition found; the fact that it might also be neurotic was considered, and as far as I can judge there is no nervous element in it. I feel very hopeful about the result. There are numbers of cases on record where adhesions, post-operative and otherwise, have kept up irritation of the bladder, producing symptoms similar to those observed in this case. I think the outlook is very hopeful for a complete cure. Replying to Dr. Rodman I would state this is the fourth cases of ovarian fibromata with which I have met. Such growths are quite rare.

BONY TUMOR OF THE PELVIS.

REPORTED BY AP. MORGAN VANCE, M. D.

This gentleman, Mr. S., aged thirty-three years, six years ago was asleep on top of a box car with his feet drawn up, thighs on his abdomen, legs on his thighs, and while in a deep sleep they were suddenly abducted, which awakened him. He had considerable discomfort at the time, and his present trouble seems to have commenced from that accident. I saw him first about five years ago. He then complained of discomfort and pain about the left hip. I examined him carefully at that time but could make out nothing wrong. There were no objective symptoms at that time. He was a fireman on a freight train, and I thought probably there was some sub-acute or chronic bursitis due to his having irritated his left hip riding in the cab, but I could discover nothing. I gave him at that time some iodide of potassium and advised him to favor that leg as much as possible. There was no atrophy. He has gone along from bad to worse progressively until he is now in rather a serious condition. Two years ago he went to Hot Springs, and while there was taken with typhoid fever, and physicians there diagnosticated his trouble Pott's disease, and put on a brace. When he came back here I advised him to discontinue the brace as there was no sign of spinal disease. I saw him again a day or two ago after an interval of six or seven months. His hip has gradually lost its area of motion and now you will observe that he walks with that leg in flexion and abduction very much like a case of thyroid dislocation. I examined him yesterday and in pressing deeply down in the upper part of Scarpa's space I feel sure I find a bony tumor springing from about the junction of the ilium with the ramus of the pubes. I also think there is some enlargement in the left iliac fossa. The condition is exceedingly curious and I had the patient come before you to-night in order to determine if possible whether the enlargament which can be felt is an exostosis or whether some form of neoplasm, and also determine what if anything can be done for his relief. He seems to be otherwise in fair health, although he has lost some in flesh, and because of the condition from which he now suffers he has been unable to work for the past two years.

There is no atrophy of the thigh, but there appears to be slight atrophy of the muscles of the buttock. He suffers pain upon over-exertion, and in locomotion is constantly apprehensive of injury being done from abduction. Dr. Roberts has seen the case at intervals during the last four or five years.

On two occasions the X-rays have been tried in this case, but nothing was established. I have never before seen just such a condition, and have been five years trying to determine its nature, and the other day was the first time I have been able to locate anything to account for the symptoms. I do not believe an exploratory incision would avail anything, and therefore it is unwarranted. Moreover a properly developed X-ray photograph or a fluoroscopic examination would give us all the information that could be obtained by exposure of the growth by incision. I am convinced that this growth not only occupies the exterior of the pelvis, making it Asymmetsical, obstructing motion of the hip, but it is also intra-pelvic. The growth is certainly bony, but further than this nothing can be said, nor can I think of anything that can be done to improve the patient's condition. Surgical interference would be an exceedingly serious matter. However he is incapacitated for work, suffers pain upon exertion, less when remaining quiet, and seeks relief. Notwithstanding this it is questionable whether even exploratory operation would leave him in better condition than he now is, which is the first question to be considered.

OVARIAN ADENOMA (?)*

BY WILLIAM C. DUGAN, M. D.,

Professor of the Principles and Practice of Surgery an Surgical Pathology in the Louisville Medical College, etc., Louisville, Kentucky.

I present this ovarian tumor simply to raise a question as to its pathology, whether it is a dermoid or whether an adenoma. It is of a character that I had always looked upon as being dermoid, but I find that Bland Sutton speaks of them as adenomata. I show you here the primary cyst forming the upper part, while the other portions contain a great deal of sebaceous material, and some hair, being a typical demonstration of what Sutton calls an adenoma.

When the growth was exposed during the operation it looked very much like a malignant tumor—that is, the adenomatous part of it—and as there was considerable peritoneal fluid (colored) along with great adhesions, it looked all the more like a malignant growth.

It was a very complicated case, adhesions very dense. A large piece of the omentum was removed, as was also the appendix, both which you will see firmly attached to the growth. The tumor was removed by carefully separating the adhesions, and the patient was gotten off the table in good condition. She has gone along since without any trouble and has made a good recovery.

In removing this tumor a great many cysts were ruptured and the fluid escaped into the cavity, but having anticipated this we had carefully packed off the general cavity and I wish to say that no water was used in making the peritoneal toilet, preferring to cleanse by careful sponging of the parts exposed to infection; and the more I see of this class of surgery the more thoroughly am I convinced of its efficacy and the danger of general flooding of the cavity as I formerly practiced. The cavity was sponged out carefully and made as dry as possible, and that part from which the adhesions had been separated packed with gauze from the lower and right part of the pelvis, and the ends brought out at the lower angle of the incision. The gauze was removed in forty-eight hours; it was very firm and gave the patient much pain in its removal. It should not have been removed for seventy-two to ninety-six hours, for by this time it has been my experience to find the lymph liquefied and thus its separation rendered easy. It seems to me we all remove our gauze too soon. I have left it in six days and had no reason to regret having left it so long. It comes away easily and causes no pain, while if removed soon the pain is considerable.

I have been regarding these growths as dermoids, but according to such authority as Bland Sutton, this is a typical adenomatous ovarian tumor, and he maintains that the finding of tufts of hair, sebaceous material, etc., is not positive proof of dermoid, as they are likewise in adenomata. In the growth before us we find a large amount of sebaceous material in many portions, a great deal of mucous tissue, and some hair. Besides these characteristics we have the different colored fluids which are usually found in these multilocular cysts. The lower portion is of special interest to me because of the general appearance of cancerous tissue, but we all know how closely they resemble each other.

* Reported to the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

CORRESPONDENCE.

PHILADELPHIA LETTER.

Contagium of Small-Pox Said to Have Been Conveyed Through the Medium of a Cotton Bale.

A case of undoubted small-pox developed in a patient who had neither been exposed to the disease within the cotton factory in which he worked, nor with any case from the outside. On the 20th of March, however, he was taken down with the disease, which was well marked, and it was so reported to the Board of Health.

A few weeks later the patient's brother, who also had been working in the same factory, was afflicted with the disease. The cause of the disease was traced to infection through the medium of cotton which had been shipped from infected ports in the South. In the latter case it is not yet known whether or not he contracted the disease from infected cotton or from his brother.

All the employees of the mill have been vaccinated and the place thoroughly disinfected, so that it is thought the disease will not spread further.

A Peculiar Case of Infection.

Thirteen years ago Oscar Webber, a lad eight years old, living at 246 South Ninth Street, was bitten on the ear by a pet cat. The wound was cauterized and healed promptly Twelve months later the region around the cicatrix began to show signs of inflammation soon assuming a dark hue, which was removed. In certain regions of the scalp the hair would fall off during intervals of eight months or a year. When he became nineteen years of age slight twitching of the muscles were noticed on the right side of face and neck, which was relieved by complete extirpation of affected ear. On March 10 of the present year agonizing pains began in region of forehead, soon ending in convulsions and unconsciousness. These attacks come on at irregular intervals and now, after having had seventeen operations, was again recently admitted at the Polyclinic Hospital to undergo the eighteenth, from which he hopes to be relieved.

Dr. Benjamin Lee and His Two Positions.

Dr. Benjamin Lee, of Philadelphia, was recently appointed Health Officer of that city at a comfortable salary of $7,000 per year. His appointment was in direct opposition to the politicians who have previously held this position. Dr. Lee also is Secretary of the State Board of Health, at the salary of $2,000 per year, and here is where the difficulty lies.

An enterprising paper recently asked him why he did not resign one or the other position, and it is said he replied: "That he knew of no legal reason why he should not hold both positions at the same time." In defense of this position some one has cited the case of the President of the Board of Health of Pennsylvania, who also held the position of Health Officer of Erie for a number of years. The Secretary of the State Board of Health of New York was for years Health Officer of Albany.

Some people suggest to him that it is against public sentiment to hold on to both these positions, but so far Dr. Lee has not been disposed to make way for another.

Hospital Abuse.

At a meeting of the Philadelphia Medico-Legal Society recently held there were about fifty physicians present to take action in regard to the subject of abating the hospital evil.

Plans were discussed looking to the influencing of legislation for the purpose of regulating the use of free hospitals by the community at large.

Persons who can afford to pay should not be treated at these hospitals, and the Society will recommend a plan at its next meeting this month which it is hoped will prove effective.

Briefly, it is to have the consent of the County Medical Society take hold of the matter and then secure the cooperation of the State Medical Association in presenting the subject to the legislature.

La Grippe.

An extensive visitation of influenza began to manifest itself in that city towards the latter part of February, probably following in the wake of extremely damp and stormy weather.

The disease seemed to affect the respiratory tract in most cases and were accompanied by severe coughing, nausea, depression and the usual nervous manifestations. Most cases gave indefinite histories of a previous attack in which such sequelae as vague pains, neuralgia, etc. were quite common.

A Supposed Death Attributed to Vaccination.

Alice Dempsey, a school girl six years old, was recently vaccinated upon the arm. Shortly afterward it is said that septicemia subsequently developed, and she was taken to the Germantown Hospital, where she died a few days later.

Health Statistics.

In view of the fact that this city has recently passed through the worst epidemic of typhoid fever probably ever known here, it may be of interest to compare the report for the past few months with those in previous years.

1897.	Cases.	Deaths.
January	173	36
February	114	18
March	179	27
1898.	**Cases.**	**Deaths.**
January	790	65
February	681	75
March	332	54

The following is the report of contagious and infectious diseases for the past two weeks, week ending April 16:

	This week.		Last week.	
	Cases.	Deaths.	Cases.	Deaths.
Diphtheria	81	22	78	13
Typhoid Fever	41	8	55	15
Scarlet Fever	68	1	46	4
	190	31	179	32

Mayor Charles F. Warwick in his recent report had many interesting remarks to make relative to the health of this city.

First, the year just closed was the healthiest for the past thirteen years, the mortality being 18.72 per 1,000.

Scarlet fever and diphtheria both mounted higher than they were in the previous year.

There were 2,994 cases of typhoid fever and 401 deaths. This total number of new cases was an increase in the previous year of 504, which was believed to be due to the overflow of an intercepting sewer near Manayunk, Nov. 16. About 60 cases had previously been reported each week, but after this water had been pumped into a water reservoir of the city the number began to increase until it reached 212 cases one week in February.

Philadelphia is one of the greatest, if not the greatest of water consumers of any city in the union; in 1887 it used 32,426,779,765 gallons of water and in 1897, 95,667,466,871 gallons, making an average per day for each individual of 187 gallons, against 89 gallons in 1887.

Quality of Milk

Some time ago a great cry went up throughout the city that the milk supply was radically wrong and that it was greatly adulterated.

The matter was finally taken in hand by Mr. Thomas J. Edge, the Secretary of Agriculture of the State, and he detailed two chemists to make a thorough analysis of the milk. Two hundred samples were obtained all told, one-fourth being obtained at the delivery depots, one-fourth from the cans of the milk men, one-fourth from the milk jugs at the private houses, and one-fourth from the restaurants. A milk inspector was also put upon the trains to watch for any persons endeavoring to "water" the milk in transit. Much to the surprise of the examiners, the milk on the average contained more fat than the ordinary standard required, while a few samples demonstrated that the process of skimming had been resorted to. The milk containing the least quantity of fats was found in the restaurants, where, it is said, the average customer would not

relish anything containing an excess of fats as found in some samples.

INSANE PEOPLE LEAD A CHOIR.

Mrs. Daniel E. Hughes, wife of the chief resident physician of the Philadelphia Hospital is making quite an innovation in developing the latent talents of the insane in that institution.

It is reported that she had forty tolerably well trained musicians to lead the choir on Easter Sunday. Although many of them did not know one note from another she has succeeded in teaching them by ear. The most difficult part of the work is to restrain some who are overanxious to get through with their parts and at least one male soloist does not wait for the interludes.

Some of the patients are epileptics and it is not uncommon to have sucha disturbance as an epileptic fit during the practice. The music is said to benefit the more violent cases and also those suffering from melancholia.

April 16, 1898. E. A. WALDERT, M.D.

PARTIAL REPLY TO DR. ASHMEAD'S QUERY.

Dr. Albert S. Ashmead asks a question or two on page 26, January MEDICAL TIMES. As I have seen no reply from the leading members of the profession, I thought, perhaps, as he seemed to want an answer, or, at least confirmation of his position, I would give my ideas on the subject.

In one or two epidemics of yellow fever and one of cholera in Louisiana I noted that during the prevalence of the troubles the symptoms of malaria were especially aggravated.

Hematuria was more frequent and symptoms, some times very severe, of vomiting of grumous matter like coffee grounds, was very common. During one year, among the first years of appearance of the "dumb-chill" form of malaria (about '74), where vomiting is the prevailing first symptom of the paroxysm; where it was neglected and the recurrence of the attack came, the vomited matter resembled very much the "vomita" of yellow fever.

On one occasion I was called eight miles away to a plantation to see three cases where this coffee ground vomit had appeared, and I had some difficulty in preventing a stampede of the entire working force on the place, they thinking it was "Black Vomit." After I showed them that two or three one-grain doses of calomel checked the vomit they became more satisfied and returned to their houses. I cannot say much as to the similarity of the yellow-fever bacillus and plasmodium, because I am impressed with the idea that the constipated bowels and absorption of changed or putrid matter therefrom is the cause of the disordered blood and the cause also of the bacilli finding food and habitation suitable to their wants. Also because it is said that the same bacillus in different habitat, or under different influences, changes its form. Also that they change very much in the same person at different periods or stages of disease. All this may be so. I have only studied the symptoms of the diseases as I find them, trying to remedy (to my mind) of the primary cause thereof. It is noticeable the further South we go the more virulent the form of disease. Cholera, chagres, yellow fever, the plague, are all born of tropical influences. As you go North these diseases are modified or disappear, and pulmonary diseases take their place. Can it not be supposed that yellow fever is an aggravated form of malaria? They are treated much in the same way—the torpid liver and dirty bowels being the primary cause. When the bowels are cleaned out and the bile shows in the excretions the symptoms are much relieved or vanish.

I think it was in 1880 when the cholera was epidemic in Louisiana, and on the Mississippi River malaria was rampant, I had 156 cases where the first symptom was vomiting followed by purging. Quinine seemed to have not only lost all of its reputed virtues, but aggravated the every symptom, and I was forced to fall back on arsenic, strychina and chioroform as antiperiodis. During this season out of 385 cases of malarial affections I had only five of pronounced ague, all the others presenting the "dumb form," with more or less of the cholera symptoms.

Also, I had only two cases of so-called "congestive chill." In them, as usual, I used chloroform and hot water, or steam baths and mercurials. As a tonic between attacks the "acid iron tonic" (nitro-muriate of iron).

Nitro-glycerine, acetanelide, pilpocarpine, and chloroform seem to act very much alike in dilating the capillaries and inviting the blood back to the surface, which is after all the restoration of the circulation to its normal condition.

To the last question in the inquiry I will risk an opinion.

Malaria by blood-poisoning causes a paralysis or constriction of the capillary blood-vessels. The blood that should go to the extremities and skin is retained inside the body and the congestive (first) stage comes on. The absence of warm blood on the surface brings on the second. or chill, stage. The fever stage sets in. The return of the blood, by dilatation of the capillaries, to the surface brings on the sweat, or fourth stage.

Now, while the first, or congestive, stage is on hematuria takes place in ordinary chills, and the overloaded internal vessels, weakened and overstrained, burst; some into the stomach or kidneys, some into the brain, lungs, or bowels. If into the stomach it may be altered by medicine taken or by the fluids in the stomach, and is vomited. The granulated appearance is from the small drops that exude from the hundreds of ruptured vessels, and each drop coagulates. I have for forty-six years watched the fluctuations in symptoms of malaria, and this is my honest opinion. DR. BEN. H. BRODNAX.

Brodnax, La.

THE ETIOLOGY AND PATHOLOGY OF DELIRIUM.

It might be well to preface this paper with a rehearsal of a case in practice:

A boy, aged fourteen, of nervous temperament, timid and backward in disposition, caring very little for the society of boys of his own age, acquired a marked delirium during the course of an attack of typhoid fever. He had the usual hallucinations which commonly accompany such a condition, but developed a marked change in disposition and an acuteness of the memory. While in delirium he would assume the attitude of a bold and courageous boy and make use of the choicest and most accomplished diction imaginable, employing words and phrases his parents had no idea he even knew the meaning of. During one of his delirious spells he recited verbatim four stanzas of a piece he had heard only once two years previously, and, strangely enough, hesitated at the very verse where hesitation occurred when he had heard it. The strangest part of it is that he could not remember a line of the piece after he was well, and has not been able to yet.

I could cite many parallel cases, but this one will serve to illustrate more forcibly than words the present paper.

None of the hypotheses advanced by the medical profession up to the present time concerning the etiology of the various phenomena observed in delirium have ever been *proven*, and one theory therefore is just as tenable as another. General statements, theories, and time-worn platitudes are of little value when compared with the specific statements which should be made regarding this expression of nervous trouble. To arrive at the true etiology, however, is no more difficult than is a proper conception of the morbid causative condition of the system at the time of the presence of the phenomena. A definite knowledge of the one will undoubtedly lead up to the other.

Whatever the true etiology and pathology may be, however, it is not the province of this paper to more than suggest, but there certainly is a constant and definite relation between the morbific influence and the cerebral centers presiding over the various mental faculties, all of which are abnormally affected.

It becomes an interesting and, indeed, a difficult study in psychiatry to trace the actions of a patient in, for example, acute typhoid mania, as in the case cited, to the conditions producing the observed phenomena.

One thing which we find in all delirious patients is interference with the normal interpretation of impressions conveyed to the cerebral centers by the various special

senses, or a disassociation of ideas or conceptions, in consequence of which, partly, we have the various manifestations of hallucinations, illusions, etc. But while this faculty is thus perverted, some of the other faculties, like the memory (as noted in the case referred to) are abnormally active.

In point of etiology is it not probable that there is a disturbed equilibrium between the inhibitory and accelerator cells of the gray matter? A paresis of the inhibitory cells would account for the over-activity of some of the faculties and a paresis of the accelerator for the depression observed in others.

Still this does not explain upon what morbid condition of the nervous system such phenomena depends. We know that delirium which takes place in acute diseases like typhoid fever is preceded by fever, which, according to Ott, is a disease of the nervous system, the thermogenic centers being stimulated by various substances thrown into the circulation. If the heat centers are disturbed by toxic products passing through the circulation, it is only reasonable to suppose that the same pathological state is accountable later on for disturbance of the other cerebral centers which are the longest to resist the toxic influence, and such a "toxic" causative condition of the system is no doubt at the basis of all forms of acute mania.

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LEDUM PALUSTRE FOR CARBUNCLE.

While resident physician of Hahnemann Hospital, New York, Dr. John McE. Wetmore called my attention to the use of ledum in the treatment of carbuncle. Since that time I have treated a number of cases with success, curing my cases in seven to fourteen days without the use of the knife.

Ledum palustre is a small evergreen shrub, growing in swamps and other wet places in the northern part of Europe, Asia and America. The leaves have a balsamic odor, and an aromatic camphorous bitter taste and contain among other ingredients volatile oil and tannin. The leaves are thought to be narcotic and diaphoretic and have been employed in exanthematos diseases.

My procedure is as follows: I give the 1-10 tablets internally every hour and apply poultices of flaxseed meal wet with ledum, one to ten, changing every half hour during the day. At night I apply a cotton compress saturated with the following:

℞ Ledum.....
Alcohol..... } aa ℥ ii.
Aqua Dis.....

The above I repeat day after day until the slough is easily removed which will be from the third to the sixth day. I then lightly pack with sterilized gauze saturated with the above solution; granulations at once form and quickly close the cavity. Ledum will always speak for itself in carbuncle. David W. Ingalls, M. D.

Bridgeport, Conn., Dec. 7, 1897.

Prof. Chas. Platt, of Philadelphia, has made recently some interesting and instructive analyses of vesical calculi, passed by patients under treatment with Buffalo Lithia Water. He found that in nearly all cases there was marked evidence of either a crumbling disintegration, or a direct solution. The specimens examined covered a large variety, and were photographed and analyzed with great care.

The details are worthy of consideration and may be found in our March issue on page vii.

Dr. W. C. Frederick recommends S. H. Kennedy's Pinus Canadensis (dark) in catarrhal conditions of the throat and ear. A solution of one to three of water is used in the throat, and two drachms to four of water, three to five drops in te ear, after syringing with soap and water.

Dr. J. G. Spenser, Professor of Chemistry, etc., Cleveland, O., says that Maltzyme possesses much greater digestive power than any preparation of malt he has examined.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York.

Venereal Case.—Bert N——; American; age twenty-four; first seen Jan. 2, 1898. Chronic urethritis, resulting from neglected gonorrhea. Examination of secretion revealed the presence of gonococci, indicating the iodoform-bovinine; the condition being principally anterior. Patient was instructed to wash out the urethra with a solution of permanganate of potash, half a grain in two ounces of water, using an ordinary glass syringe, and to follow this with iodoform-bovinine all three times a day.

Jan. 12, microscopic examination of the urethral secretion, first in the morning before urine, revealed not the slightest trace of gonococci; consequently it was now time to employ pure bovinine, one dram being injected three times a day. On the 18th all discharge had ceased; but as there was still some slight sensitiveness, patient was instructed to continue the injection of bovinine twice a day. Jan. 26, careful microscopic examination of secretion, and search of urethra with sound, showed that the case was absolutely cured.

Schering's Formalin Lamp in the Sickroom and Household.—The vapors of Formalin are not only used for the disinfection of rooms and dwelling houses, and for the destruction of foul odors, but are also employed with beneficial effects in the treatment and prevention of diphtheria, measles, scarlet fever, whooping cough, influenza, asthma, etc. They rapidly and completely destroy disease-producing and other microbes. The deodorizing properties of the Formalin vapors depend upon its capability to form odorless and innocuous chemical combinations with foul-smelling bodies (sulphuretted hydrogen, ammonia, organic bases, etc.)

When the vapors of Formalin are employed in the treatment of zymotic diseases, or for ordinary air purification and sterilization, one or more pastils should be constantly evaporated in the upper cup of the lamp. When rapid vaporization is required the upper cup should be removed and the pastils placed directly in the lower receptacle.

Tenaline: A New Vermifuge.—Hobday, professor of therapeutics, Royal Veterinary College, London (*Journal of Comparative Pathology and Therapeutics*, December, 1897), *Med. Age*, relates certain tests made on animals, with a view of determining the value of tenaline, a new preparation recently made from the areca nut, and which retains the teniafuge alkaloids of arecaine and guvacine without the toxic principal arecoline. It has the advantage over powdered areca nut of being more easily administered, as its bulk is small and a purgative is not a necessary adjunct. Its action on the bowels is to increase secretion and stimulate peristalsis so that no worms can be retained. Its general effect seems to cause expulsion of the head as well as the segments, thus getting rid of the most troublesome part of the parasite. The dose is one minim for each pound of body weight, and it is advised that it should be administered pure or with the addition of a little water. Tenaline is considered to be a perfectly safe vermifuge. That it has a toxic action was illustrated by the case of a Maltese terrier in which one dram was given subcutaneously. The dog died in ten minutes from respiratory failure. Tenaline is unsuitable for subcutaneous use.

Glycerin Suppositories vs. Uterine Inertia.—Dr. Cowen writes in the *Medical Age* that one day he was called in a hurry to attend a young primipara for whom he had not been previously engaged. She had been in labor about twelve hours, but it had not been considered necessary to send for a physician, the pains being so very weak, and the necessary preparations had been overlooked. Examination showed the os uteri well dilated, membranes unruptured, parts small, and long intervals between the pains. Thinking a tedious case lay before him, Cowen adopted his routine practice of placing a glycerin suppository in the rectum. It had not been long *in situ* when the patient implored him to remove the "horrid thing," as it caused very severe pain. Presently to the writer's sur-

prise, he discovered that the pains were those of labor, the intervals being quickly shortened.

After eight or ten strong pains a second examination revealed little or no progress of the head, and at the persistent and repeated requests of the patient he removed the suppository—that is, what remained of it. Immediately the pains ceased and the intervals again became lengthened. After waiting for an hour or more, it suddenly occurred to the writer that the glycerin suppository previously placed must have acted otherwise than expected; that, in fact, it might have stimulated the uterus to activity. Anxious to determine if such were the fact, he reintroduced a suppository into the rectum, telling the woman that this time it must remain. As a result, increased uterine contractions with hard labor-pains returned. Frequent examinations were made between the pains. Quickly the head advanced and was shortly born, but at the same moment the remaining undissolved portion of the suppository fell out.

Before making known the above, Cowen experimented upon twelve cases, the notes of which he has in his possession, and in all these he conclusively proved the exytocic efficacy of glycerin surpositories, and now would not feel at all armed without them.

In conclusion, he will be pleased to hear from any other practitioner upon the subject, as well as gratified to learn that others have had similar results.

Rapid Eating.—There is a prevalent idea that slow eating is very favorable to digestion, but this, says the *Journal of Mental and Nervous Diseases*, is largely fallacious. The important point is not that we eat slowly or fast, but that when we do eat we chew with energy. Of course, where the haste is due to some mental anxiety, this may injuriously inhibit the secretions. Slow eating begets a habit of simply mumbling the food without really masticating it, while the hurried eater is inclined to swallow his food before proper mastication. Hence, hurried eating is bad, but rapid mastication is advantageous. It concentrates our energies on the act in question, and hence more thoroughly accomplishes it. Moreover, energetic chewing stimulates the secretion of saliva in the most favorable manner. These various points are so commonly misunderstood, at least by the laity, that they demand our frequent attention.

Eruptions Produced by Drugs.—The editor of the *Therapeutic Gazette* writes on this subject as follows: "Although every dermatologist recognizes the frequency with which various forms of skin eruptions appear after the administration of many medicines, it is probably true that the average practitioner does not pay sufficient attention to this possibility, and is therefore misled in some cases into making a diagnosis of one of the exanthemata or of deciding that the eruption is a typical disease of the skin. It is impossible, in the short space which can be devoted to a leading article, to go over in detail all of the drugs capable of producing such untoward effects. On considering the most prominent of them it can be laid down as a safe rule that a diagnosis of a skin disease ought never to be made with positiveness until the possibility of the lesion being produced by a drug has been entirely put aside. Only recently one of the most prominent dermatologists in this country said to the writer that it was surprising how many cases were sent to him by physicians who were not specialists in diseases of the skin, on the supposition that the individual was suffering from some true skin disease, when, in reality, the withdrawal of the medicine which the patient was taking for some other complaint was speedily followed by complete recovery. Of all the drugs which may produce lesions in the skin which closely resemble forms of true skin disease, iodide of potassium ranks first. Urticartal wheals, bullous eruptions, and even eczematous patches may follow its administration, while in other cases an intense pruritus develops, which is thought to be due, perhaps, to the gout from which the patient is suffering rather than to the drug. Singularly enough quinine is another drug which produces eruptions more frequently than is commonly recognized, perhaps the most common form of eruption being urticaria, or in its place an intense erythema. The eruption of quinine and belladonna may so closely resemble that of scarlet fever as to make a diagnosis between the two conditions very difficult, particularly as the belladonna is very apt to cause a slight rise in temperature. Antipyrin may also produce such a rash, though it commonly resembles the eruption of measles, and salicylic acid, may as may also iodide of potassium, cause localized edema, while arsenic causes pigmentation of the skin. The subsequent course of the case, and the fact that these eruptions are generally uncomplicated by other symptoms, will do much toward enabling the physician to guard himself against deception, provided he will but remember the possibility of skin-changes under the use of remedies."

Heredity in Longevity.—The *Dublin Journal of Medical Science* quotes an interesting statement by Sir Benjamin W. Richardson concerning his observations on the duration of life of the offspring as compared with that of the parents. He considers that if the ages of the two parents and of the four grandparents be added together and divided by six, the age of the case in point will be told with an average variation of not more than two. If the ages of the parents are high, the offspring tends to improve on them; if low, say an average of forty or lower, the life of the offspring will probably be shorter.

The Under-Soul or Sub-Conscious Self.—Dr. R. Osgood Mason in a recent paper presents the following summary of established facts or phenomena closely overlaying the mystery of being in the present world and the world to come (*Sanitary Era*):

Here, then, are three distinct conditions in which a second consciousness or personality is brought to the surface and becomes the ruling personality to the exclusion of the primary self; these namely: Loss of consciousness from disease, shock or other physical causes; ordinary sleep and the hypnotic trance. Examining closely the personalities apparent in these conditions, and especially in the conditions of ordinary somnambulism and the hypnotic trance we find certain supra-normal faculties present in the new or second-hand personalities, not present in the normal or primary personality, especially the faculty of supra-normal vision. This alleged fact is not generally accepted, because from the standpoint of the ordinary laws of optics acting upon physical organs, such vision is of course impossible. But within the past ten years the subject has been systematically studied as never before, and the evidence of such vision is simply overwhelming. But it is the sub-liminal (sub-conscious) self, and not the primary self which possesses this power. This supra-normal vision is also sometimes exercised in dreams and in reverie.

The following conclusions are drawn: 1. That there does exist in some persons, probably in all, a subliminal self or second personality, whose action is not strictly limited by the physical body, and which possesses perceptive powers far exceeding those of the primary self. 2. That lucidity or clairvoyance is an attribute of the subliminal self, and in that view is perfectly reasonable and is a proper subject of investigation by scientific methods. 3. That hypnotism is a means of experimentally bringing this subliminal self with its added perceptive powers into action.

The argument in favor of the above theory is fully and ably presented in Mr. Jay Thomson Hudson's recently published work entitled "A Scientific Demonstration of the Future Life," which should be read by every physician.

The Diaphragm Phenomenon.—Prof. Moritz Litten, of Berlin, claims to have discovered a new motor phenomenon of the diaphragm, which he describes in the *Medical Record* substantially as follows (*Am. Med. Rev.*): In the act of respiration the motion of the diaphragm, its descent and gradual detachment from the walls of the thorax during inspiration, and its ascent and opposit on

to the thoracic parietes synchronously with expiration, may be plainly seen by close observation, its outward manifestation being a shadowy, wavy undulation starting on either side at about the sixth intercostal space, and descending through several interspaces sometimes as far as the costal margin, during inspiration, and rising through the same space during expiration. This phenomenon is best observed, he says, when the patient is made to lie on his back, with head slightly supported, and the light from a window falling, if possible, in a tangential direction upon the costal region below the seventh rib.

The limits of the excursion of the diaphragm during forced respiration comprise two or three intercostal spaces, while in superficial breathing not more than one or one and a half spaces are covered. Prof. Litten claims that by noting whether these normal limits are reached, exceeded, or fallen short of, the volume and expansive power of the lungs and the capacity of the thorax can be better ascertained than by measuring the circumference of the chest and the amount of air aspirated. Emphysema, effusions, hydro and pneumo-thorax, the presence of tumors in the thoracic cavity, attachments of the diaphragm to the lungs, liver or spleen, may always be determined, he says, by observation of the excursions of the diaphragm, and the fact whether or not it occupies its normal position in the thorax, as revealed by its visible motions. The difference, if any, between the limits of the movement of the diaphragm on the two sides of the chest wall, renders it possible, he says, to judge of the action of the lungs, after injuries and pleuritic adhesions. He has observed this phenomenon in the patients of his clinic, numbering 5,000 to 6,000 a year, during the past four years, and considers it of value as an aid to diagnosis, especially in diseases of the lungs or pleura, and in cases of interthoracic tumors; and also a great convenience in the examination of large numbers of individuals for military purposes and for life insurance.

Primitive Surgery.—Dr. George M. Kober, in the *Virginia Medical Monthly*, gives the following extracts from a German treatise on the "Medicine of Primitive People":

"*Wound Treatment.*—Most of the primitive people permit their *trivial wounds* to heal under the scab; some, however, like the Karoks, Ashantis, Dakotas, the natives of South Australia or New Guinea and of Lower California, apply poultices prepared from pounded leaves and juicy barks. The Karayas, of Brazil, dust their wounds with powdered charcoal, and the inhabitants of Engano Island apply hot ashes or leaves. The Samoans fumigate their wounds with the smoke from black walnut wood, while some of the tribes in Southern California prepare ointments, and others of Alaska have perfected plasters from cedar rosin.

"*Fractures and Dislocations.*—On the whole, the results of treatment of these injuries by primitive people are disappointing, and very few of them appear to have the slightest idea of the mechanism of these injuries. While it is true that many of them apply retentive splints, few appreciate the necessity of reposition of the fragments, extension and counter-extension, and the results are seen in many badly united limbs. The Creek and Winnebago Indians are said to have obtained some very gratifying results, while the natives of Southern Australia also manage their cases quite well by the application of splints and clay. In many instances after straightening the limb it is surrounded with a casing of clay, which in time hardens and prevents displacement. Bartels mentions a fracture of the femur thus treated, where there was no perceptible lameness or shortness; and in the case of a boy who sustained a fracture of the jaw by a fall from a horse treated by the application of a clay mask over the entire face, the result was equally satisfactory.

"*Amputations.*—Judging from the meagre data it would appear that such operations are rarely performed. In Morocco the ablation of one or both hands is frequently prescribed as a mode of punishment, and Quedenfeldt reports that in these cases the hemmorhage is controlled by the application of hot pitch. Corre declares that the stumps are very neat and symmetrical, but we have no record where the operation was seen by an intelligent witness."

A Much-Enduring Melancholic.—The connection of nasal disease with melancholia is shown, says the *Practitioner*, by a case of Bosworth's (*Medical Journal*, October 12, 1895), which may also take rank as a "record case" of the endurance and faith exhibited by an individual who, indeed, suffered much of physicians. The patient in 1881 commenced to suffer from melancholia; took a trip to Bermuda, without avail; made the round of a large number of physicians, by whose advice he tried hard work; a period in an asylum, gardening, health resort, electricity and the "Salisbury diet." Despairing of medicine, he placed himself in various surgical hands, and was operated upon for varicocele; was fitted with glasses for refraction; was operated upon for stricture, and failing to secure relief, was castrated, with the loss of perfectly healthy organs. As the melancholia deepened circumcision was performed, the pubic artery was tied, hemorrhoids were operated upon, the spine was cauterized and a seaton was worn in the back of the neck for a month. The muscles of the eyeballs having been operated upon without relief, a healthy eyeball was enucleated. There was no improvement in the symptoms, and the long suffering individual seriously contemplated suicide. After ten years of search for health this abbreviated and eviscerated patient completely recovered after treatment for ethmoid disease.

Exercise of the Waist.—Between the pelvis and ribs (as Dr. A. T. Halsted points out in *Physical Education*), the only bones are those of the spine; five bones, having great freedom of motion. The waist depends for its strength and vigor upon the broad muscles which make up the walls of the trunk at this place; hence the need of that condition of those muscles which only exercise will produce.

Here comes in one of the great evils of any device in dress which by any degree of rigidity gives support to the body. To the extent of the support given the muscles are relieved of their proper functions; they accommodate themselves to the demand made upon them. The less the demand the weaker do they become. The tight or boned waist becomes a splint. A splinted muscle loses power. Strong abdominal muscles are a great essential to easy and safe delivery of children, since the abdominal muscles are the secondary force in childbirth. Weak and useless abdominal muscles have prolonged many a confinement, and led to many a laceration by instruments when the trouble might have been avoided had the mother possessed strong abdominal muscles. But this is not all. Many deaths have resulted from the same cause. For want of strength in these muscles, prolonged labor, an exhausted uterus, and an after hemorrhage, have carried away the mother and ofttimes the child.

So we emphasize abdominal exercise for all women; to secure a better figure, more vigor of body, and, above all, greater safety in child-bearing.

Operations with the Magnet on the Eye.—The secret of success in these cases is promptness and the extraction of the iron splinter while the wound is still gaping. J. Hirschberg inspects his apparatus twice a week and tests it to have it ready at a moment's notice, and to this he ascribes his success in saving the eye in several severe cases. He prefers the Asmus sideroscope, uses cocaine, and extracts the fragment with his small electromagnet, connected with a simple zinc-carbon battery, attracting a pound, combined with the large Schlosser magnet and accumulator, attracting twenty pounds. He also has on hand a still smaller magnet attracting 200 grams. Five minutes after the patient crosses the threshold, all the instruments, including the ends of the small magnets, are soaking in Schimmelbusch's soda solution, and in five to ten minutes more the iron splinter is on the table. He describes thirty-four cases thus treated, with technical success in thirty-three, in the *Deutsche Med. Wock.*, July 29, completing his record of sixty seven magnet operations.

MISCELLANY.

—One physician in every fifty who die commits suicide.

—Urinary incontinence is one of the earliest subjective signs of falling of the womb.

—To induce labor Kossman directs injecting within the cervix five grams of glycerine.

—The New York Hospital Library has been closed and the books transferred to that of the Academy of Medicine.

—A valuable horse belonging to a Louisville, Ky., man enjoys the distinction of being the only horse wearing false teeth.

—Sir Alfred Garrod, of London, has now been fifty years in the practice of medicine, and during all this time has occupied the same house, 10 Harley Street.

—Dr. Searle says veratum vir. is of more value in croup than all other drugs combined. When it assumes a membranous form it can still be given with kali-bich.

—A chair of physiological chemistry has been established in the College of Physicians and Surgeons, which will be filled by Prof. Russell H. Chittenden, of Yale College.

—Dr. Searle recommends for tapeworm a light diet of milk and fruit for one day. The next morning a mixture croton oil, gttii; glycerine or mucilages 3 i; of chloroform, ann acacia, 3 i.

—A Brooklyn landlord offers a house and lot rent free to the first family among his tenants in which twins are born. To the first family in which triplets are born he will present a house and lot.

—Dr. Charles E. Page says give the stomach rest in the vomiting of pregnancy, simply sipping a few swallows of hot water occasionally during the day. Before taking food wait till the stomach is tranquil.

—"Drunkenness to-day is deemed disreputable in the upon simply as a misfortune," writes Edward W. Bok, in very quarters where only a little while ago it was looked the May *Ladi's' Home Journal* "Every line of business shuts its doors absolutely to the drunkard."

—The scientific physician (*The Practitioner*) is neither a homoeopath nor an "allopath." Like Moliere, *il prend son bien ou il le trouve*, and, regarding not system, but facts, uses whatever method or instrument he thinks likely to serve his purpose.

—If the Government, says *Food and Sanitation*, undertakes the stamping of money there is no reason why it should not stamp foods. There should be the stamp of some authority able to enforce penalties for counterfeiting, as in the case of money.

—A German doctor who has been collecting information about the habits of long-lived persons, says that the majority of those who have attained old age indulged in late hours. That is, they retired after midnight and remained in bed late in the morning.

—The Russian branch of the Red Cross Society has granted a pension of a thousand roubles annually to M. Henri Durant, of Geneva, whose name is well-known in connection with the foundation of that Society, and who is in greatly reduced circumstances.

—Charles Chauncey, the second president of Harvard College, graduated in both divinity and medicine at Cambridge, England, and is said to have been of the opinion that there ought to be no distinction between them, educating his six sons in both professions.

—Mrs. Henrietta R. Fales Baker, whose will was recently probated in Philadelphia, left an estate worth $2,000,000. Should her son and daughter die without issue the whole estate will revert to the University of Pennsylvania and the Pennsylvania Hospital.

—*Harper's Weekly* says: "There seems to be some reason to anticipate a time when New York families will contract with a syndicate of physicians, comprising a complete set of the necessary specialists for the supervision of the family health at a fixed annual price."

—"Society," says E. W. Bok, "has become intolerant of the behavior which inevitably results from excessive indulgence in drinking, and men realize this. It is bad manners to-day to drink to excess. Good taste is spreading, and moderation is necessarily following."

—The most curiously decorated graves in the world, perhaps, are those of the natives in Zululand, Africa. Some of these mounds are garnished with the medicine bottles used by the departed in their final illness, and the duration of the malady and skill of the physician are indicated in a measure by the number of bottles.

—It has been said that the hospitals of Paris are in an insanitary condition and lack accommodations sufficient to meet the demands made upon their resources. As a result of a recent examination, the superintendent of the charitable institutions of Paris asserts that it would require at least $10,000,000 to put the hospitals of that city in proper condition.

—Illegitimate living births per 1,000 living births, 1892: Austria, 143; Bavaria, 132; Saxony, 127; Sweden, 101; Denmark, 101; German empire, 89; Scotland, 84; Norway, 82, Belgium, 77; France, 74; Italy, 73; England and Wales, 48; Switzerland, 47; Holland, 30; Russia, 28; Ireland, 25 (Bertillon); Massachusetts, 15; Rhode Island, 10.7; Connecticut, 10.3; Vermont, 10.2.

—According to a well-known scientist, the dusting of rooms is perilous to the members of the household, in that it disseminates disease germs, which have a decided affinity for dust particles and adhere closely to them. Household furniture should be wiped with a soft cloth, the dust being carefully retained in its folds. The cloth or cloths should be thoroughly boiled daily.

—A movement is afoot to form a national society for the study of epilepsy and the care and treatment of epileptics, and it is thought that an attempt at organization will be made in May. It is hoped that all who favor the proposition and who have any suggestions to make regarding the same in any way, will please communicate with Dr. William P. Spratling, Sonyea, N. Y.

—M. Jules Geoffry, of Paris, has determined that the obstinate vomiting of pregnant women is due to a reflex contraction of the digestive tube, pylorus and duodenum, but more particularly of the ilio-pelvic angle of the colon. Prolonged palpation of the digestive tube calms the hyperesthesia and stops the contracitons. The vomiting consequently disappears, and the cure is rapidly established.

—The first medical degree granted in New England was an honorary one bestowed on Daniel Turner, of Connecticut, by Yale College in 1720. As this was intended as a token of gratitude for Dr. Turner's liberal gifts to the college, and not as a recognition of any particular fitness on his part to practice medicine, a wit of the time interpreted M.D. to signify *multum donavit*.

—"There has never been," says E. W. Bok, "a time in America when every indication pointed so strongly to a decrease of intemperance as the present. There has never been so little drinking as at present, and never such a strong tendency toward moderation in quarters where alcoholic indulgence is general. This is a fact impossible to controvert, because the most careful figures bear out this very hopeful statement."

—It is said (*Lit. Deg.*) that Evans, the famous American dentist, would have been made a Duke of France, if events in the year 1870 had not led to the downfall of the second empire. Evans was almost entirely without school education, but he was a skillful workman, possessed a great deal of tact, was of undoubted integrity and—knew how to keep a secret. Had it not been for him Empress Eugenie would have been unable to escape from Paris.

—J. W. Olinger, an undertaker in Denver (says the *Republican* of that city), claims to have ascertained from his observations that no person having a missing arm or leg ever contracts consumption; and he therefore suggests that amputation might be added to the many cures for the disease which are offered by humanitarians. He further concludes that if amputation checks the circulation, amputation may not be required if the circulation is checked. He invites correspondence on the subject.

ORIGINAL ARTICLES.

CAUSE AND PREVENTION OF ENTERIC (TYPHOID) FEVER.

By G. J. Hirth, M.D., Milwaukee, Wis.
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INTRODUCTION.—In order to fully appreciate the important relation that the cause, prevention and effect of typhoid fever bear to the commonwealth, it may be well to consider the prevalence and death rate of this disease at two different periods of time; and, for convenience of comparison, let me call your attention to the annual report of our American Health Bureau statistics relative thereto, for the years 1880 and that through which we have just passed—1895.

1880 Census.—In the census of 1880 there were reported 22,854 deaths from typhoid, to which at least 40 per cent. (9,141) should be added for inadequacy of reports, making a total of 31,995 deaths so reported. It is only just in this connection to note that this same report gives 20,231 deaths as due to malaria, and 12,640 deaths due to enteritis, making 32,871 deaths from both, to which should be added 40 per cent. of deaths reported, in order to approximate the actual number of deaths from these two causes, making 32,871 + 40 per cent. of 32,871 = 46,019 deaths, half of which (23,009) may be justly attributed to typhoid, making (31,995 + 23,009) 55,004 deaths from this one cause alone, which is a very conservative estimate.

1896 Census.—As regards the number of deaths from this one cause in the year just ended, we find that there are no fewer than 45,000 deaths reported from typhoid, to which should be added 30,000 estimated from previous reports resulting from typhoid, but credited to malarial and enteric disorders, making a very conservative estimate of 75,000 deaths from typhoid alone during the past year.

Monetary Consideration.—As regards this, we are safe to say that each life is worth $1,000, since the minimal cost of raising a child to the age of self-support is at least $1,000, which, however, is a low estimate. Since the vast majority of cases occur between the ages of 15 and 30, we may justly regard each loss of life thus sustained at $1,000, making a loss of $75,000,000 per annum. There are at least ten persons ill for every one that dies, so that the number of sick persons is 750,000; and with an average length of illness of four weeks this would make 21,000,000 days lost; each person must have an attendant, so multiply by two, making 42,000,000 days lost to the State, each day of which is worth fifty cents, making a loss of $21,000,000; and to this add $1,000 for personal value of each death lost to the State, making $21,000,000 + $75,000,000, and we have $96,000,000 paid by the State as a tribute to criminal ignorance, carelessness, and so forth, regarding this disease during the past year; and by the same process of reasoning, $70,000,000 for the year 1880, thus showing that the United States has done absolutely nothing to prevent the spread of typhoid fever.

Cause.—Notwithstanding the fact that a number of writers assume that the Eberth-Gaffky bacillus (1880) or Koch-Eberth bacillus is the specific germ of typhoid fever, among whom may be mentioned Osler, Wood, Fitz, and Pepper among our American authors, aside from any German and English authorities, we must not fail to note that the four rules of Koch, particularly the crucial test of producing the disease in animal organisms by inoculation of a pure culture of the Eberth-Gaffky bacillus, has failed to produce the characteristic lesion.

Koch's Rules Not Complied With.—In addition to the fact that the four rules of Koch have not been complied with, we have much evidence that the essential lesions of so-called typhoid fever may be produced in animals by a number of micro-organisms other than the Eberth-Gaffky bacillus (Vaughan's "Leucomaines, Toxins and Antitoxins": Flugge and Vaughan); and pathologists have pretty generally agreed that the pathological findings of autopsies during the first few days of the so-called typhoid may differ both in lesion and bacteriological findings.

In 1890 Vaughan reported the isolation from water, supposed to have caused typhoid fever, a number of toxicogenic germs, any of which proved noxious to rats, guinea pigs, and dogs. The chemical poisons of two of these have been studied, and upon white rats these poisons produce symptoms which are identical with those which follow inoculation with living germs, and upon guinea pigs these chemical poisons proved fatal within twelve hours, with circulatory apparatus, kidneys, liver and spleen remaining sterile.

With Vaughan we have Klein, both of whom fail to agree that the Eberth-Gaffky bacillus is the sole cause of so-called typhoid fever, the former claiming that the Eberth-Gaffky bacillus as found in the spleen after death is an involution form of any one of a number of germs which are found in certain waters. (Vaughan's "Leucomaines, Toxins and Antitoxins," p. 208.)

Varying Forms.—In connection with this it may be well to note that Babes, in calling attention to the uncertainty of recognizing the bacillus of typhoid outside the body, has reported that he has distinguished nineteen different varieties of typhoid bacillus found in the bodies of typhoid autopsies. (*Zeitschrift fur Hygiene, Band* 9, p. 2.) Casedebat (*Annales de l'Institute Pasteur*, 1890, No. 10) has accurately described three different kinds of bacilli very much resembling typhoid, *e. g.*, bacilli found in Marseilles drinking water.

Infection through connection with typhoid patients is no more an open question. During the years 1861 to 1870 there were treated at the General Fever Hospital of London 3,555 cases of enteric fever, along with 5,144 patients not suffering from any specific fever, with the result that not one of the latter or the nurses contracted the disease. Dr. Gayler, in editing the third edition of the esteemed work of Murchison, remarks that subsequent experience down to 1882 of the London Fever Hospital is in complete accord with the above report. (*Encyclopaedia of Hygiene*, Stevens and Murphy, Vol. II., p. 319.) In view of the above, and, indeed, I might cite innumerable cases, there can be no question but

that enteric fever is not to be classed with the infectious diseases.

Specificity.—The fact that it is not at all infectious directly shows quite conclusively that the contagion is not a specific virus, and, furthermore, the virus contained in the excreta of patients suffering with the disease seems first to have to go through a period of incubation before it becomes active in infecting others with the disease, this period of incubation or evolution varying from three weeks to several months.

In view of the foregoing facts, I do not believe that, after a careful study of the many various types of the so-called typhoid, taken in connection with the very meager specific bacterial evidence that we have thereto, especially since the germ is not invariably present, and since the bacterium coli commune of Escherich, which is a microbe present in the normal contents of the large intestines of the new-born and adult, being so similar in morphological, cultural and physiological respects to the Eberth-Gaffky bacilli, that many observers cannot distinguish one from the other. (Congress of Hygiene, 1891, Roux, Arloing, and Rodet.) We are justified in assuming that the varied class of symptoms, characteristically described by our authors as typhoid fever, are not due to one specific germ, but that it should be regarded as a mixed infection with one or more of several germs varying in degrees of specificity, acting as causal agents in producing this widely varying enteric disorder. If due to one germ, it must be one having a highly oscillating degree of virulency, and, theoretically, I think we are justified in assuming that the bacillus coli commune of Escherich when crossed with one or more of those germs found in polluted drinking water, is changed to a virulent germ, which elaborates a chemical poison (Toxalbumin) by feeding upon (*a*) the proteid present in the alimentary tract, thus serving to produce our mild forms of typhoid and so-called gastric fevers; (*b*) or when there is a high degree of susceptibility on the part of the patient or a lessened constitutional resistance, the lymphoid tissue is the next area affected, Peyerian patches, mesenteric glands and spleen, as they are the points of least resistance, being the great cisterns of our filtered blood plasma, and a good nutrient media, thus serving to produce the varying forms of typhoid and kindred enteric disorders. "It has been shown by Roux and Yersen that the virulence of the pseudo-diphtheria bacillus can be raised by cultivating the bacillus with streptococcus on a suitable nutrient material, or by passing through a series of animal organisms, with proper conditions of susceptibility, and so forth, that a virulence one hundred times greater in potency can thus be obtained." ("Diphtheria and the Use of Antitoxin in its Treatment and Prevention," by G. J. Hirth, *Milwaukee Medical Journal*, Vol. IV., No. 12, p. 398.) Here are two facts which may be influencing factors in the above, and may explain the varying gravity which we have all observed in typhoid.

General Influencing Causes.—General factors influencing the production of the virus of the disease bear an all-important relation to etiology, as also prevention, and we find that organic contamination, either vegetable or animal, of our natural waters, bears an important relation to the propagation or evolution of that class of germs commonly associated with enteric fever; and, in consequence, we find it most prevalent during that period of the year when the organic contamination of our water supplies, wells, cisterns, and river waters, is at its height—August, September, October, and November in the temperate zones. And, on the contrary, when Nature's process of purification of our natural waters is at its height, we find it the least prevalent—winter, spring, and early summer, though in thickly populated areas with defective drainage and sewage, it may be constantly present.

Another fact that organic contamination of our water supplies, either animal or vegetable, serves as the primitive predisposing factor in etiology, is shown that it prevails in India in its most virulent form during March, April, and May, and during other seasons it is absent to the greatest extent, since in this area vegetable and organic contamination are at their zenith during February, March, April, and May, thus giving time for the propagation of that class of germs associated with our enteric disorders, or probably to the evolution of the so-called Eberth-Gaffky bacillus, or a modified form of the same from other germs.

Way of Entrance.—The poison thus prepared gains access to the human system principally through drinking water directly, or through drinking water infecting various foods; *e. g.*, in the recent epidemic at Stamford, Conn., 1895, there occurred 406 cases from April 15 to May 6, most of all having occurred in children and those who used the uncooked milk of a certain dealer, whose source of water for washing cans was a seap-well, located centrally between a number of cesspools and common privy vaults. Other examples of similar cases are on record in great number.

Local Drainage and Sewerage.— Infective drainage and sewerage as a source bears an undisputed relation to the propagation of the virus of enteric disorders, as practical experience shows that cities whose sewage and drainage are poor are invariably hot-beds for typhoid, even when the water distribution is the very best in character; *e.g.*, the great hot-bed center for typhoid was at one time Munich, of Bavaria, whose mortality from 1843 to 1849 was as high as 25 per cent. The drinking water at that time was gotten from wells in and around houses, waste materials of all kinds was collected in cellars; sewage was put in in 1860 with but little avail, and in 1868, pure water was piped many miles from springs and clear lakes and to-day the average annual deaths were from 5 to 8 for 360,000 people, and these are imported cases. (Von Siemssen.) It is useless to say that with our modern improved plumbing that it is impossible for sewage, at its beginning, to infect a habitation unless there be a defect in same; at all times it is practically impossible to so construct a sewer, cesspool, privy vault, cistern or well that the contents of one will not be influenced by the other if in close proximity.

Irrespective of its source, a water which is a natural water, and taken from a river, unless it be from a mountainous district, is invariably unfit for a water supply, owing to its contamination with vegetable organic matter; and, moreover, even

though it be a still body of clear lake water, the source of water supply should never be taken from a point in close proximity to the entrance of sewers, or an area influenced through same. *E. g.*, *Chicago* has about twenty-four public sewers flowing into the lake, with innumerable private sewers, the result of which will invariably be either a direct contamination of the lake water with the virus of our enteric disorders, or the overloading of the water with organic contamination, which serves as a culture medium for the same vir is, either of which, or probably both, will serve as a source of infection, if the water is taken within an area so influenced, which doubtless comes within the limits of her present water supply, since she annually shows a high mortality, having reported 560 deaths during the year through which we have just passed, 1895, from this one cause alone. Again, Milwaukee furnished, we are happy to say, an admirable example of this great influence in having almost entirely stamped out this dreaded disease, not by changing the natural source from which the water is taken, but by changing the location of the source from which the water was taken, thus eradicating the two above spoken-of causes. The highly disastrous epidemic which prevailed in Duluth only a few years ago furnished another example, having reported 153 deaths in 1895. Hamburg, Germany, furnishes a most thorough practical application, in that even though the system of drainage and sewage is perfect, the water supply may be the only source of infection, and since their recent new system of filtration, still taking it from the same source, the mortality from this cause is practically *nil*.

Not only is it true that our public water supplies may become contaminated by sewage or even vegetable contamination, either constant or periodically, but there is no question to the mind of every rural practitioner but that these same causes which are acting in our cities are very frequently present and have their origin in farming communities, and that unclean barnyards, privy vaults, and especially water taken from streams collected from the vegetable areas of our alluvial soils, either of which or all may serve as foci of infection to our wells, poorly built cisterns and creeks, thus serving as a source of infection for our cases, having their origin *de novo* and in consequence a tributary source of infection for our larger bodies of natural waters, our great rivers, which serve as a great sewer, and, at the same time, water supply for nearly all cities located on their banks.

In connection herewith, my personal experience has furnished me ample data to prove the correctness of the foregoing statement, a short report of which may be of interest. Quincy, Illinois, a town of about 30,000 inhabitants, located high on the banks of the Mississippi, has constantly had much more than her share of typhoid deaths, ranging at about 1 per 1,000 population, according to her last annual reports; her system of sewage and drainage is certainly above par, and yet she invariably has a high autumnal mortality from typhoid with slight degrees of variation. The question may with justice be asked, Whence this source of infection? This can only be answered indirectly by saying that her source of water supply is the Mississippi, with no attempt whatever at filtration. Those of you who are familiar with her topographical geography know that on either side there is a wide belt of alluvial swamp soil, backed by high bluffs on either side, but particularly on the Illinois side. In this connection it may be said that during the autumn months this low area is most invariably the victim of a virulent malarial epidemic, though occasionally when the fall is dry the malaria may be entirely absent.

This Illinois bluff is backed by a rich, high land farming community; in this particular area, which is from three to ten miles north of the city, the surface water is collected by innumerable creeks which were dry during the most of July and August, but in the fall again became running streams. So constant was the prevalence of typhoid fever in one locality of this section during the months of September, October and November, that I have known as many as thirteen cases within an area of two square miles to have occurred in one fall, myself being counted among the number. It is of great interest to note in this connection that the victims of these epidemics were most invariably those who frequented this creek area of woods in pursuit of nuts, game, etc., since most every case was amongst males; thus showing conclusively that these cases had their origin doubtless *de novo* from this creek surface water, which became infected in the way spoken of elsewhere in this paper. The Mississippi river being more or less a collection of such waters, can it be wondered at that Quincy should at this coincident season of the year be the victim of the same allied disorders? I may also add that since this time (about twelve years ago) the borderland timber of this creek area, from one to two miles in width, has been cut down and the land put in cultivation, which has been the cause of rendering this small tributary quite extinct. Last fall when I visited this section I found that typhoid had entirely died out, and that the populace of this same area were the regular autumnal victims of malaria, which during my residence in this highland section some fifteen years ago was wholly unknown. This also shows that typhoid may arise independent of an antecedent cause, and that antecedent causes of a changeable character change the character of the enteric disorder, and in fact that they are conducive to such changes, seems highly probable; thus again showing that the virus of typhoid fever is not specific in character.

Areas Most Influenced by Typhoid and Enteric Disorders.—Statistically, it may be definitely proven that the cities located on the banks of our lowland rivers have a much higher death rate from typhoid and enteric disorders than those located inland or at the border of our great lakes, and it cannot be questioned at this day but that pollution of a water supply by means of sewers, and indeed our great bodies of waters as regards rivers come under this class, is responsible for the great majority of enteric disorders, including cholera, typhoid fever, dysentery, enteric diarrhoeal diseases, and malarial fever.

Prevention.—Since there are no factors in the cause of typhoid so certainly established as the propagation and conveyance of the virus or antecedent by infected water, or by food contamination

with infected water, by any one of the many various ways, it necessarily follows that this source of contagion should receive the greatest amount of attention.

Hamburg's Experience.—A lesson of intense practical application may be learned from the experience which Hamburg, Germany, has undergone during the past several years. In the summer and fall of 1891 it was my privilege to observe practically, at the Hamburg Eppendorf Allgemeinen Krankenhaus—of about 2,300 beds—a large number of cases and autopsies of typhoid; in fact, several pavilions were given up to the care of these patients during the fall months, with a greater or less number during the remainder of the year. It may justly be stated that Hamburg's mortality from typhoid up until this time was almost a constant factor with only slight degrees of variation. In the fall of 1892 Hamburg became the victim of the cholera epidemic, a fact fresh in the minds of you all. Russian trading vessels from infected ports, unloading at the wharf, dumped their filth into the Elbe, which had never been anything more or less than a first-class sewer, notwithstanding the fact that the public water supply, without any attempt at filtration, was taken only a few blocks from the entrance of the public sewers. An immediate investigation into the prevailing sanitary conditions was of paramount necessity, as the number of deaths had increased within nine days to 484. The committee of investigation, consisting of Koch, the Public Board of Health Commissioner of Hamburg, and, I think, Pettenkofer, or Veit, reported that the existing source of infection was largely the public water supply; in consequence the water supply was cut off, special literature as regards the cooking of all foods and rules of hygiene being freely distributed, the result was that within twenty-eight days from the time that the infection had reached its height (which was nine days after the first case was reported, the 30th of August, 1892, having 1081 cases reported with 484 deaths) it had almost entirely ceased.

In consequence of a specific sepsis (cholera) of the old system, which consisted of three great mud basins and sewers, it became necessary to construct a new system of water purification. That known as the solid sand bath system, having its origin in England, was given favor, and within twelve months by night and day work, her present system was completed. Some two years ago, while renewing my old associations at Hamburg, I happily found that such a thing as a typhoid patient was looked upon as a relic for purpose of study, and at that time when I called there was not a single case being cared for at the General Hospital.

Description of Sand-Bath Filter.—Even though the construction of this filter is known to many of you, a brief sketch of the mechanical structure may not be out of place. A large basin is dug into the surface of the earth, from one to four acres in area, about ten or twelve feet deep, bricked and cemented at bottom and sides, the latter being angular to about 45 degrees. A large drain is laid at the base by having prepared two cross trenches having one common outlet and being covered in entirely with large plates of stone, loosely placed. The base of the cement basin floor is covered with large boulder stones, successively graduated layers until small pebbles are reached (the depth being about four feet); on top of these very small pebbles, sand, which has been heated to red heat or washed with sterilized water, is placed to a depth of three or four feet, and when packed is ready for use. These basins are flooded from beneath upward until the water reaches a level of three or four feet above the level of the sand, and the difference between the height of the level and exit of the water will determine the rapidity of filtration, which is working most efficiently when filtering at the rate of from three to five inches per hour.

Advantages of this Filter.—(*a*) It removes all suspended matter present and at the same time organic matter plus germs which have become entangled in the upper film and layer of sands, which in time clogs the filter and when the filter is cleaned, they are thus removed.

(*b*) It must not only be understood that sand acts best as a mechanical strainer, but physics has shown that finely divided solid substances such as sand exert the power of condensing and collecting oxygen, which serve the purpose of oxidizing organic matter held in solution, and possibly also the germs, since they are our simplest organic forms of life, endowed with little resistance. (The Eberth-Gaffky bacillus and bacilli closely allied are pretty generally accepted to be devoid of sporulation.) They also lose their integrity and disappear from water combined with saprophytic bacteria (Tysen), though in sterilized water they remain vital, according to Klemperer, for three months or more, are not destroyed by freezing, hence the ice supply is a factor which may account for sporadic cases or even epidemics, but to my mind this is not likely to occur, because at the time the ice is being frozen, Nature's processes of purification are at their height; again it may be true that even after a pure ice is cut it may be contaminated by water stirred up at the sides of a polluted stream. Please do not understand from what has been said that water polluted with sewage or vegetable contamination (albuminoid ammonia) is dangerous to life *per se*, but it is an indicator that such water will serve as a propagating culture medium and carrier for a variety of germs, including Koch's cholera bacillus, malarial bacillus, Eberth-Gaffky bacillus, the varying forms of bacteria which produce our summer diarrhoeas (Vaughan, Booker and Escherich). I do not think that diphtheria bacilli should be classed with this number, for clinical observations do not associate its etiology with polluted water supplies, but, like unto influenza, with poor ventilation.

Organic Contamination Not Noxious Per Se.—As regards organic contamination, *per se*, not being noxious to life, Emmerich, of Munich, has given the subject a practical test. For fourteen days he drank daily one liter of very filthy water, both chemically and physically impure (almost pure sewerage), with no deleterious effects; control experiments on others gave similar results; in fact he claims that it served as a therapeutic agent in curing the gastric catarrh from which he was suffering at the time. (Wolffugel: "Wasserversorging," Pettenkofer, and Siemssen's "Handbuch der Hygiene." 1st abth. 2 hefte, p.

97). However this may be, our inborn instincts of sanitary conscience and cleanliness make it imperative that even though a pathogenic-germ-free sewerage should be taken with impunity, it should not be taken; our finer instincts demanding purity of food and water, which are rules dictated by Hippocrates 365 years before Christ.

Again, Berlin may be cited as a city whose mortality from typhoid fever is almost nil. I have witnessed from three to seven post-mortems daily for two semesters, taken from the Charite Hospital, and never saw a post-mortem of typhoid fever. During this same time I took a course in physical diagnosis at the clinic of Professor Paul Guttmann, at the Moabet General Hospital—about 1,700 beds—and during the entire time we did not have one case for clinical teaching. It is needless to say that hygienically, Berlin is the cleanest city in the world, as also to say that she has all water under bacteriological control, most modern sand filters, which have been recently put in at some distance up the Spree River (ten miles) at Muggle See, at the expense of the old sand bath process which was condemned for the reason that it took its water from a point too near the city.

Conclusions.—In view of the foregoing we may conclude: (1) Typhoid fever occurs through taking into the body virus mixed in character, or, if specific, having widely oscillating degrees of virulency, which practically nullifies its specificity. (2) The virus or antecedent causes find access to the body always through the alimentary tract through the agency of water either directly or indirectly by drinking or eating. (3) That bad drainage, sewerage and vegetable contamination are the prime factors influencing water contamination. (4) That the portion of our large bodies of still waters (lakes) near the entrance of sewers, and our lowland rivers are so affected. (5) That water so infected or prepared for infection should never be used as a water supply unless (*a*) boiled or (*b*) filtered. (6) That when this process (sand filtration) is not practical it should only be taken from springs, subterranean streams, clear lakes or rivers not influenced by organic contamination. (7) That the filter having the requisite degree of practical efficiency (and the only adequate process of purification until the present) is the modern sand-bath filter, properly constructed and manipulated. (8) That all the rules of hygiene pertaining to the sickroom should be rigidly observed, and that both secretions and excretions of those ill of the disease should be disinfected by carbolic acid. (9) That a highland farming community and rural districts are in no wise exempt from this disease, and usually serve as the starting points for cases having their origin *de novo*. (10) And, lastly, that even though it may be necessary to wait until the future will have become the present in order to settle the question of specificity, the factors influencing the cause and prevention will always remain the same.

A correspondent of the *Medical Record* with etymological proclivities writes: "The ending oma means tumor, as in adenoma, sarcoma, etc., the prefix dipl means double, as in diplacusis, diplococcus, etc. Therefore when a graduate receives his diploma does he get a double tumor?" "To some extent, yes," answers the editor. "Usually it is a case of swelled head and great inflation."

CRYPTOGENIC SEPSIS.

By James T. Whittaker, M.D., LL.D., Cincinnati, O.

PART II.

In certain cases of septicemia which set in in young children in hospitals, after measles or a simple bronchitis, pharyngitis and stomatitis, Hutinel and Claisse found, under bacteriological examination, in the bronchioles staphylococci, pneumococci, bacterium coli, and, above all, streptococci, which in three cases was also found in the blood. These streptococci are the cause of the whole process. They were very virulent to rabbits. These authors found the streptococcus infection only in children up to four years of age, sometimes in epidemic form, especially in the measles wards under overcrowding. They believed that the streptococcus, which is found regularly in the mouth, got a virulence by association with other cocci, staphylococci, pneumococci, etc.

Though several varieties have been described, we know as yet very little regarding the different forms of the streptococcus. For instance, it is now quite definitely settled that the streptococcus of erysipelas differs in no way from that of other affections. Petruschky finds that erysipelas can be produced in the ear of the rabbit by streptococci of very different origin, *e. g.*, from abscesses, puerperal processes, pleurisy, etc., in case of sufficient virulence of the streptococci.

But this fact could not be considered as an absolute refutation of the specificness of the erysipelas streptococcus, as other bacteria may also produce a disease like erysipelas in the ear of the rabbit. Thus a disease like erysipelas may be caused by a particular bacillus described by Koch, further by varieties of the bacterium coli, as established by Delius and Petruschky. Further, Petruschky succeeded in producing the condition by a certain culture of the staphylococcus aureus. An absolute refutation of the specificness of the erysipelas coccus could be accepted only if it had become possible to produce erysipelas in man by a streptococcus culture obtained from some other streptococcus disease. This has actually been done by Petruschky, who, at the request of Langenbuch succeeded in producing erysipelas in certain patients affected with tumors. Thus Petruschky was able to produce a typical erysipelas in two cases of carcinoma from cultures obtained from peritoneal pus. It may therefore be considered as established that erysipelas may be produced in man by streptococci which do not arise from erysipelas.

The further experiments made by Koch and Petruschky to disprove the specificness of the erysipelas streptococcus all speak in favor of the unity of the cause. Thus streptococci cultivated to the highest degree of virulence for rabbits remain entirely innocent to man, and erysipelas in man may be produced by the cutaneous inoculation of streptococci obtained from peritoneal pus, while the streptococcus obtained from the vesicles of erysipelas itself do not always reproduce erysipelas. Further, the resistance of different individuals is different to the same micrococcus. Thus, repeated attacks of light erysipelas give no

immunity to streptococcus infection. All the anti-streptococcus sera hitherto devised are worthless. While it was found—the fact may be here interpolated—that a certain restraining influence of various streptococcus cultures upon the advance of carcinoma could not be denied, yet anything like a definite therapeutic effect could not be admitted.

The differences in the effect of streptococci may therefore depend upon: 1, the seat of the infection; 2, the virulence of the infecting streptococcus to man in the case of the same streptococcus, for this virulence is by no means the same as that in mice and rabbits; 3, the individual resistance of the patient; 4, the influence of other coincident diseases which affect the individual resistance.

We stand as yet too great a distance from these micro-organisms to be able to discover details. It may be that there are differences. We know, however, that the same micro-organisms may produce very different affections. The bacteriologic diagnosis may be very monotonous, and may read infection by streptococcus, staphylococcus, etc., but the diseases they produce are much diversified. Thus the streptococcus may content itself with the production of a panaritium, or a simple furuncle or phlegmon; it may cause lymphangitis, localized or diffuse, an affection so different as an erythromelalgia marked by discoloration with spontaneous pains without a trace of suppuration, inflammation of any of the serous membranes or of any internal organ, finally general septicemia (Schleich).

According to the studies of Monod and Mocaigne an extensive local streptococcus infection may produce death by intoxication, and streptococci may not be demonstrated in the internal organs. Under a lesser virulence a streptococcus introduced into the blood may localize itself in only one organ, the endocardium or the kidney, and there produce a suppurative inflammation.

In a general way, the difference of degree of streptococcus infection lies in the virulence of this micro-organism, which is increased, as stated, by the presence of other bacteria. But all the forms of sepsis have the same cause, and any one pyogenic micro-organism may produce all the forms. Marmorek declares he has seen the various grades of sepsis pass over into each other.

Semon called attention to the probable pathologic identity of the various forms of acute septic inflammations of the throat and neck hitherto described as acute edema of the larynx, edematous laryngitis, erysipelas of the pharynx and larynx, phlegmon of the pharynx and larynx, and angina Ludovici. Kuttner had already remarked that all these diseases should be regarded as different forms of acute sepsis. They are marked by edematous infiltration of varying intensity, the suppurative forms being usually fatal, while serous infiltration is favorable. The process may extend to the glands of the neck, to the nose and throat, and secondarily to other organs, especially the serous membranes, pleura, pericardium, peritoneum. In rare cases the central nervous system may be attacked in the form of epileptic convulsions, delirium, irregularity of pulse. The first localization is most frequently in the pharynx, as the tonsils form the avenue of entrance, but it may be anywhere in the throat or larynx. The tendency is to descend. Thus angina Ludovici is not to be regarded as a separate disease, but is a form of sepsis with primary localization in the connective tissue of the throat. The character of the exudation, serous or purulent, does not depend upon the nature of the cause, as the same micro-organisms may produce one or the other, according to the degree of infection, the condition of the tissue, etc.

So that, as in the case of all infections, there is a question of soil as well as seed. Hence it is that notwithstanding the presence of decided inflammation on the surface or in the depth of the tissues, notwithstanding grave suppuration, in fact, notwithstanding direct inoculation with streptococci under the skin or into the peritoneum, general septico-pyemia by no means always develops.

Just at the present time the condition of the soil is receiving most attention. All the tissues are endowed with certain protective bodies or principles. Such protective principles are found in the skin, in certain cells, especially in the cells described by Grawitz as the "schlummer" cells, which play a chief role in the production of the so-called small cell infiltration. These cells prevent the further penetration of bacteria in a mechanical way, and furnish also antitoxins in a chemical way. The epi- and endothelium cells have the same property as these cells of infiltration. This property is especially shown in the peritoneum, whose endothelium attenuates the virulence of bacteria mechanically and chemically so long as it remains intact, and so long as the virulence of the bacteria is not too great. The endothelium of the meninges, of the pleura, further the epithelium of the gastro-intestinal tract and of the respiratory organs have the same protective quality. (Marmorek.)

But this protection may be insufficient, or the micro-organisms may be too many or too virulent. Penetrating the surface and reaching the connective tissue they here encounter further resistance in the lymph vessels and lymph glands, which act in the same way as in the skin and mucous membranes. These lymph structures, the lymph glands, thymus and bone marrow, have higher bactericidal power than the blood, which is thus protected until the invasion becomes an inundation, for the lymph organs are usually found entirely free of micro-organisms, which may abound in the kidneys, the liver and the intestine. Here, too, bacteria may be walled in or virulence may be destroyed. Should these guards be insufficient, the micro-organisms reach the blood, where they must overcome the third resistance which is offered by the serum and by the blood corpuscles. These structures, however, have much less protective power, and may act only in cases in which former virulence has been much attenuated at previous barriers.

Erysipelas, phlegmon, carbuncle are forms of septicemia in which the chief protective role occurs in organs of the first class, the skin; lymphangitis and lymphadenitis are diseases in the organs of the second order, in the lymph vessels, while sepsis and

pyemia are diseases in the organs of the third order, the blood.

Various factors strengthen or weaken the resistance of the blood. One of the most important is the degree of alkalinity.

Fodor, in a series of experiments, brought new proof that the addition of an alkali, the sodium hydro-carbonate, markedly increases the immunity of animals against infection by milzbrand, in fact, doubles it.

Rabbits whose blood was made more alkaline, as well as those in which the alkalinity of the blood increased after infection, were more resistant to certain micro-organisms than rabbits whose blood was less alkaline. The degree of alkalinity of the blood, as well as the capability of the organisms to increase the alkalinity after infection, are points of essential influence in immunity and disposition. Thus the susceptibility to furunculosis, tuberculosis, and other infections of diabetic patients, in whom there occurs at times an acid intoxication of the blood, may be explained by the diminished alkalinity of the blood, and the virtues of the mineral waters may be largely due to the increase of this protective principle.

Behren and Reisich found the blood highly alkaline at birth in a healthy infant, and remaining so for the first six months, after which time it rapidly loses alkalinity, which is lowest at from one to three years of age. Hereupon it again gradually rises, though even at sixteen it has not yet reached the adult standpoint. This increased alkalinity of the blood may be invoked to explain the immunity of infancy to various infections which has hitherto been ascribed to some unknown principle in the milk.

Sepsis sets in much easier if the protective power of the body is weakened in any way, as by fatigue, hunger, cold, anemia, by any disease which poisons the blood, especially by Bright's disease. All these things weaken the protective principles. The prevention of the natural elimination from the body of toxic products, as from the intestines or kidneys, immensely favors the development of sepsis. Hence the necessity of securing regular evacuations of the bowels and free action of the kidneys in the treatment of disease.

SYMPTOMATOLOGY.

It would be unjustifiable here to dwell upon the symptoms of septicemia, and mention of them may be made only for the purpose of drawing a differential diagnosis, which is sometimes extremely difficult. The invasion of the blood by any of the pyogenic micro-organisms is announced by chills and every fresh invasion by repeated chills. This fact is so well known that the people look upon a succession of chills as ominous of "blood poisoning." The chill is, as everybody knows, a mere subjective sensation indicating the poisoning of the nervous system under the toxemia. That the heat-regulating centers in the nervous system suffer is indicated by the rise of temperature, which begins with the chill, continues throughout the course of it, and rises but little higher after in the period of, commonly called, fever. The poison extends itself also to the vasomotor centers, and a characteristic feature of the chills and fever of septicemia is more or less profuse sweating. The fever of septicemia is not continuous, like that of typhoid fever, but is interrupted, and sometimes so distinctly as to closely simulate the fever of intermittent or remittent type. Reference has been made already to the "seesaw" curve of the streptococcus invasion. Intermittent chills, fever, and sweats always should excite the suspicion of septicemia. I have known abscess of the brain and, more frequently, abscess of the liver, diagnosticated mainly by this means in the absence of any distinct local signs. It is, anyhow, the absence of distinct local signs which makes the sepsis cryptogenetic. But the presence or absence of local signs is a matter not only of the existence or non-existence of these signs, but of the acuteness of the observer. I have at the present time under treatment at the hospital a physician of much repute as a practitioner who is literally dying of slow sepsis. He came to me to be treated for heart disease, marked by a soft mitral regurgitant bruit. The fact is, the bruit is a relative incompetency from dilatation caused by degeneration. There is a low, remittent fever; temperature, 100 degrees to 101 degrees. I examined the body repeatedly, and could find no explanation of the fever. I frankly told the doctor on every examination that there was something that I could not make out in his case, that I had to regard it as a concealed sepsis. Finally one day last week, after some such a remark on my part, the patient said: "Well, the only thing I can think of is an old affection of the knee which I have had for forty years, and which was called 'white swelling' when I was a boy." Hereupon I discovered tuberculous bone at the knee, as indicated by numerous old cicatrices and one small discharging abscess in the ham.

I had examined the whole body down to the knees, but no further. In this case the cryptogenic became all at once a phanerogenic sepsis, but too late, I know, to save the patient, who, though his mind is actually hazy with sepsis, still makes light of his forty years of suppuration and recent amyloid degenerations.

In other cases I have been more fortunate. Thus it has occurred to me repeatedly to be able to recognize the cause of a septic headache of years' duration by the distinct discovery of gonorrhoeal threads (Tripperfaden) in the urine, and the presence of pus cells in larger quantity has led in the same way to the recognition of a pyelitis or pyonephrosis.

A characteristic feature of the chills and fever of septicemia is the obstinacy of them. They do not yield to quinine or to the salicylates. They are not broken up or prevented to any extent by the antipyretics. Sometimes they are very capricious. They continue with some degree of regularity for a week or a month, and then disappear for a week or more to recur without any known cause. Perhaps we see this freakishness most marked in the hectic and night sweats of tuberculosis.

One of the most characteristic features of septicemia is the rapid action of the heart. The pulse is quick. It is usually weak; it is the pulse celer, but not alter. It beats 120 to 140 or more. Sometimes it is a veritable tachycardia. In the last stages

the pulse vibrates, as Jimenez says, "like a loose string." I would lay stress upon the quick action of the weak heart as one of the important signs of septicemia. The pulse is quick because the heart is weak, and the heart is weak because it is dilated. Moreover, it is dilated because the heart muscle is poisoned. A quick pulse should always excite the suspicion of a dilated heart. This dilatation may be further recognized sometimes by percussion. The borders of dullness are increased while the impact is feeble. There is room here for a good deal of deception. A weak heart sometimes throbs violently. The weakness is best appreciated at the pulse. But the heart may be affected in its valves as well as in its walls; not at all infrequently the lining membrane of the heart is the seat of the disease. The micro-organisms colonize directly upon the endocardium, and ulcerative or malignant endocarditis is universally recognized as a localization of sepsis and an expression of general septicemia. The malignity of the diphtheritic or ulcerative endocarditis is not due simply to the localization, but to the infection which is now general. Affection of the other serous membranes is not uncommon, the pericardium, pleura, and peritoneum, as indicated by friction, effusion and dullness, etc.

The lungs are affected in various ways. Very frequent and characteristic is a diffuse bronchitis of toxic development. Infarction is more rare, as is also abscess, but lobular pneumonia is not uncommon. The extensive implication of the lungs with weakness in the action of the heart accounts for the dyspnea and cyanosis of the last stages of sepsis.

The kidneys are most frequently affected. There is with some exceptions more or less albuminuria. If the albumin be not present in sufficient quantity to be discovered by the ordinary heat or nitric acid tests, it may be disclosed by the finer tests, especially by the Spiegler test, which will discover one part in 350,000. Hematuria indicates infarction. Bright's disease begins, as a rule, so insidiously as to be unrecognized. When we come to know more of cryptogenetic septicemia we will have a better understanding of the genesis of some of the causes of Bright's disease.

The spleen is swollen, though not to the same extent as in malaria. Sometimes it is the seat of infarctions. Though the swelling may not be so great as to make itself manifest, it is in either case tender to pressure.

As for the digestive organs, the symptoms are neither so constant nor so characteristic. There is anorexia; sometimes there is a peculiar craving for food with at the same time a sense of nausea and aversion; that is, there is hunger but no appetite, demand but no desire. There may be constipation or diarrhea. A septic icterus is recognized, but is not common. It is hematogenic, and is due to disorganization of the blood. Embolism of the mesentery reveals itself by colicky pains.

In the great majority of cases the skin is affected in some way. Usually this affection is in the way of eruptions, which have great variety: roseola, urticaria, erythema or exanthemata. Sometimes there is herpes; sometimes there are great blotches like geographical maps. The most characteristic affections are hemorrhagic, especially in the form of petechiae or pemphigus. Some form or other of skin affection is found in three-fourths of all the cases, and the absence of any affection of the skin after careful scrutiny of the surface should lend additional caution to the diagnosis.

Hemorrhage from the mucous membrane is rare, but extravasation of blood in the retina is one of the most characteristic features of septicemia. These changes were studied especially by Litten and Michel. The effusion varies in size, is sometimes minute and sometimes so extensive as to take up a large part of the retina. An extravasation with a white center from embolic occlusion is very characteristic. The lodgment of septic emboli in the larger vessels produces panophthalmitis.

The significance of joint symptoms has long met its proper interpretation. As elsewhere intimated, the cause of rheumatism itself must be closely allied to, if not identical with, the cause of the sepsis. In fact, rheumatism is looked upon by some good observers as a modified sepsis. At any rate, joint affections are quite characteristic of septicèmia. Scarlatina, gonorrhoea, dysentery, all septic diseases, are complicated with rheumatism. Sometimes, as in acute rheumatism, the affection skips from joint to joint, and distinguishes itself by its fugacity, but it is more liable to be monarticular and to be confined to a larger joint. We see the best example of septic joint affection in gonorrhoeal rheumatism, which has a decided preference for the knee, where it may remain fixed for months. Another point is the fact that septic rheumatism is attended with more pain in the bones between the joints, especially in the long bones, regions of which are tender to pressure. These points of tenderness are perhaps rightly ascribed to colonizations in the periosteum and bone marrow. Gonorrhoeal rheumatism is especially distinguished by tenderness or pain in the tendons at their points of insertion near the joints. Affection of the joints always excites in the mind of the practitioner the suspicion of sepsis.

The nervous system is nearly always implicated in some way. Curious are the cases in which there is a singular euphoria in the presence of grave signs of sepsis, hectic fever and sweats. This condition is observed more especially in the spes phthisica of tuberculosis. It is sometimes seen also in puerperal fever, where it may lend a peculiar poignancy to the last stages. Usually there is headache, or hebetude, vertigo, insomnia, excitement; sometimes the scene is varied by convulsions or coma. These various conditions are explained by the lighter effects of toxins, which are more or less speedily eliminated, or by the graver signs of anatomical lesions, embolic occlusions, softenings, hemorrhages, meningitis, encephalitis.

DIAGNOSIS.

If I would allow myself any latitude in this discussion it would be in regard to differential diagnosis. The chills and fever of intermittent type often pass under the diagnosis of malaria, but they are never so distinctly periodical as malaria. The sweat stage is usually longer, the whole condition is uncontrollable by quinine, or even by methylene blue, the agent second in value to quinia in the relief of malaria. The spleen is larger than in malaria. There are no metastases in malaria, no affection of the

joints and no affection of the serous membranes. Finally, there is no plasmodium in the blood in septicemia.

Miliary tuberculosis offers sometimes great difficulty, in the absence of sputum, which is the rule in this form of the disease. Tuberculosis sometimes shows catarrh at the apices of the lungs. Dyspnea and cyanosis show themselves earlier in septicemia than in tuberculosis, while the joint symptoms and skin eruptions characteristic of septicemia, are altogether absent in tuberculosis.

Typhoid fever has, in common with septicemia, fever, roseola, bronchitis, diarrhea, and swelling of the spleen, but has not the joint affections, endocarditis, osteomyelitis, and icterus of septicemia.

Uremia, which often looks like sepsis, is attended by more constant and violent headache, by spasmodic twitchings, and convulsions and earlier coma, with the evidence in tube casts, besides that offered by albuminuria and edema, of inflammation of the kidneys.

But different cases show different signs. Dennig adds to his former report five new cases from the polyclinic at Tubingen. From these cases it is seen how varied is the picture of sepsis; how it may show symptoms, now in one organ and now in another, so that the diagnosis may be exceedingly difficult.

The diagnosis is really actually established by the discovery of the pyogenic micro-organisms in the blood itself. In this examination the surface should be thoroughly cleansed with soap and water and disinfected, at first with sublimate solution 1:1000, then with alcohol, and, lastly, with ether. The object glasses and cover glasses should be thoroughly sterilized. A drop of blood is then secured from the finger, better from the forearm or from the lobe of the ear, put upon one glass, which is covered by the other, when the glasses are drawn apart and the specimen is fixed by passing it through a flame. Hereupon it is colored with the alcohol carbolfuchsin or the Weigert coloring solution. These examinations often give negative results. They are more apt to furnish positive results when the blood is taken during the chill or shortly after. All the discredit of this means of study comes, however, from relying upon the direct examination of the blood, which fails oftener than it succeeds. Very different are the results obtained in culture soils, which are so much more uniform as to be encouraging. In this examination the blood should be taken as Canon showed, not in too small quantities, 30 to 40 "platinöse" for use in culture. Blood from the cadaver must be taken not later than twenty-four hours after death from a vein in the arm, in which the blood is purer than from the heart, where it may be contaminated by bacteria from the lungs.

Canon succeeded by culture in cultivating in fourteen cases upon glycerin agar the micro-organisms of sepsis from living blood, to wit, the staphylococcus, streptococcus, pneumococcus, and, in one case, a bacillus very like the Friedlander bacillus. Fischel and Adler found streptococci in the blood of a patient who had recovered from injury two and one-half months, and who showed the symptoms of pernicious anemia and died under an excess of fever. Sterilized bouillon cultures of the coccus injected into animals produced the same progressive disease of the blood. The autopsy of the patient revealed multiple ecchymoses, tumor of the spleen, fatty degeneration of the heart. The case was regarded as a cryptogenic septicemia which ran an exceptional course under the picture of a pernicious anemia.

Sittmann studied fifty-three cases with cultures, emphasizing the fact that it requires larger quantities of blood than are usually employed. In nine cases of cryptogenetic septicemia he found four times the streptococcus, four times the staphylococcus and bacterium coli. In three cases of disease of the liver there were twice staphylococcus, once staphylococcus and bacterium coli. Two cases of croupous pneumonia gave negative results. Six other cases showed the pneumococcus. A positive result in the examination of the blood is in these cases an unfavorable sign.

Of secondary septico-pyemia there were four cases of typhoid, two with staphylococcus. The course of the temperature in typhoid may be produced by the specific cause of the infection. The fever may be influenced by the primary cause and by migrated pus producers. Of four cases of tuberculosis three showed staphylococcus. In four cases where the examination was negative there was hectic fever. This hectic fever does not therefore necessarily depend upon general infection. It may be caused chemically by toxins. In the examination of animals it was seen that the staphylococcus in the blood may be excreted in the urine without doing any real damage to the kidney, so that in septico-pyemia the activity of the kidney should, as stated, be stimulated. The excretion of cocci in any grave infection occurs from the eighth hour on up to death; in light infections from the fifth hour to the fourteenth or sixteenth hour.

PROGNOSIS.

The prognosis of cryptogenetic sepsis is always serious, but depends, as in sepsis of apparent origin, upon the virulence of the poison, the height of the fever, the weakness of the heart, the gravity of the nervous symptoms, and the character of the complications. Dennig declares that the prognosis is not so bad as is commonly believed, and the extremely serious import with which septicemia has usually been regarded comes from the fact that the diagnosis was established only in bad cases. Every practitioner knows of the recovery of a number of cases of puerperal fever, and individuals do recover from the septicemia of tuberculosis every day. The mere finding of pyogenic micro-organisms in the blood by no means of necessity makes a fatal prognosis, but more depends than is ordinarily believed upon the character of the micro-organism. The prognosis of septicemia, as determined by the cause thus revealed, becomes evident from the results of the studies of Sittmann, mentioned above. Of the twenty-three cases, sixteen ended fatally. The fatal cases included all the streptococcus infections, six of the eleven staphylococcus, four of the six pneumococcus and all the mixed infections.

So long as endocarditis remains free of complications, especially of embolic processes in the lungs, gangrene of the lungs, suppurative pleuritis, and sinus thrombosis, the prognosis is not very grave. Even the supervention of these grave complications does not make the prognosis necessarily fatal. Here,

too, much depends upon the localization of the lesion. Thus Fraentzel declares that he never knew a case of septic endocarditis complicated by thrombus of the sinus petrosus or a pylophlebitis which did not terminate fatally. There is no doubt, however, that cases do recover from uncomplicated septic endocarditis marked by such distinct and violent chills as to stimulate intermittent fever. Cautley reported a recovery in such a case.

The prognosis really depends upon the discovery and possible removal of original or originating depots of infection. Therefore it is that sepsis of concealed origin has, as a rule, a graver outlook than sepsis of apparent and possibly accessible origin.

TREATMENT.

The treatment may be dismissed in a few words. The prophylaxis depends upon an increase in the general habits of cleanliness, the greater frequency of ablutions, and more care for higher sanitation. The people, as Ziemssen remarked, should be informed of the possibility of infection from the most minute injuries and should be warned against handling decomposing substances or from ingesting decomposing foods. Even insect bites should be treated with more consideration. Minute wounds should be disinfected with a 5 per cent. carbolic acid solution. Above all things, punctured or penetrating wounds should be freely incised. I have at the present time under treatment the case of an old gentleman in whom a lymphangitis of the leg has dragged along for a month because the surgeon at the time of the consultation declined to lay open a recently closed cicatrix, the evident avenue of entrance of the original poison. So-called catarrhal affections of the mucous membranes of the nose, mouth, and throat, should be disinfected with solutions of boric acid, yellow oxid of mercury, permangate of potash, subsulphate of iron, ferric alum, etc. Suchannek believes that the jugulation of a sore throat will prevent or abort an attack of rheumatism. Intestinal sepsis could be prevented by a freer use of calomel at the start or by the subsequent use of salol and naphthol. Toxins circulating in the blood may be neutralized by the salicylates, by iodin, mercury, bromin, arsenic. It is a question if some of the well known action of the bromides, which is usually attributed to a mere sedative influence upon the nervous system, may not be ascribed to a kind of antidotal or antitoxic action in the way of neutralization of toxins. Fever and pain may be best combated by phenacetin, or where this remedy sweats too much, by lactophenin in the dose of five to seven or ten grains, several times a day. Dennig found phenacetin the best agent in the relief of pain, excitement, and fever. Absolute rest should be observed during the whole period of fever. Jürgensen and Dennig maintained that the patient should remain in bed fourteen days after the subsidence of fever. The value of this treatment is seen especially in the rest treatment of tuberculosis. Hectic fever may be controlled by sponging the surface with very cold water, which becomes agreeable in the course of time. The affection of the serous membranes and joints is combated at the start by the ice bag, which chills the surface, and to some degree sterilizes the soil. Besides, external applications of cold have a decided anesthetic action. General support of the patient is best secured by means of alcohol, which may be given in the largest possible dose. Glasser declares that the protective influence of alcohol in puerperal fever depends upon the fact that it produces a multiplication of leucocytes, which, as already stated, act in both a mechanical and chemical way in secluding micro-organisms and neutralizing toxemia.

I have said nothing concerning the specific treatment of septicemia. The whole subject is still too new for definite conclusions. At least no such sweeping declaration may be made as in the case of the antitoxin of diphtheria. Groedel hopes that the serum of Marmorek may find speedy use in the treatment of acute rheumatism. The most favorable results thus far obtained were reported by Baginski, who treated a number of cases of scarlet fever successfully with Marmorek's anti-streptococcin. In fact, he lost under this treatment only the cases whose complications were caused by micro-organisms other than the streptococcus.

Suchannek expresses the hope that the hygiene of the mouth may receive more attention, and that the avenues of entrance of pathogenic micro-organisms may be protected by frequent gargles with innocent antiseptics. Especially should this caution be observed in the case of individuals who have shown a disposition to frequent attacks of rheumatism, as the jugulation of a sore throat may prevent an attack of rheumatism. Groedel hopes that the serum of Marmorek may find speedy use in the treatment of acute polyarthritis. These cases are often announced by chills or a series of chilly sensations, and a good many of them fall under the category of a " bad cold."

These difficult studies, in fact, the whole dark field of septicemia, has now a brighter outlook than ever before. The diagnosis, at least, may be cleared up with greater certainty than ever before. I would be glad if in this paper I could direct attention to what is being done by culture studies of the blood in unmasking cases of concealed sepsis. Some young bacteriologist in our country may find in this subject incentive, or, what the young investigator often loses much time in looking for, direction for further study.

EXTRA-GENITAL INFECTION IN SYPHILIS.

By Howard L. Coles, M.D., New York.

A PERUSAL of the literature of the day shows that the location of the primary lesion extra to the genital apparatus is not such a rarity as might be supposed. On the contrary, the percentage of extra-genital primary effects is quite high, being, according to different authorities, from 2 to 9 per cent., and as the knowledge of the disease broadens the proportion increases.

This mode of infection is common and may be upon any part of the body. All that is necessary is a slight break in the continuity of the skin or mucous membrane at any point and the presence of the syphilitic virus at that particular spot, excepting in those who from some cause are immune. The wound, a scratch perhaps, heals over quickly, and without causing comment. After a period of incu-

bation of from three to four weeks in the average case, a peculiar sore makes its appearance at the location of the original scratch. It is at first a small papule surrounded by an area of inflammation, which later becomes covered with a crust or scale and later gives way to a postule, which in turn ruptures, and an ulcer results. It appears like a simple sore, but its great peculiarity lies in the fact that it refuses to heal under the ordinary forms of home treatment, and finally a physician is consulted. An ordinary ulcerated surface, varying in size, according to location, irregular in shape, with raised indurated edges and a dirty infiltrated base, sometimes encrusted, is presented to him, without much if any history, the scratch having been forgotten.

In some cases a careful examination is made and the correct diagnosis given, while in others, and it must be said a majority, the examination is superficial, and results only in a continuation of local treatment until perhaps a mercurial ointment is accidentally applied and the sore disappears, without the patient receiving any intimation that the lesion was syphilitic until the appearance of the secondary manifestations, for, unless unusually severe, the roseola passes quickly and without remark. In fact, the lesion acts precisely as when upon the genitals.

The physician who makes a thorough examination will always find in every case of bona fide hard chancre, no matter where it may be located, a painless, indolent swelling and induration of the immediate lymphatic glands and a later participation by the more remote.

In some cases under non-specific treatment the lesion persists for a more or less length of time, and then disappears, or it may disappear spontaneously without treatment. Syphilis resulting from extra-genital infection does not run a severer course than that from ordinary genital inoculation. As many of the cases go unrecognized, they form a possible source for a wider spread of the infection through the use of any of the common articles, such as towels, soap, brushes, etc. Cigarette stumps, toothpicks, and pipestems have spread the disease. Kaposi records one case of hard chancre on the scalp.

The chief point in the treatment is to withhold the specifics in the form of mercury or its compounds until the appearance of the roseola. The too early exhibition of mercury not only destroys the certainty of diagnosis, but experience in the German clinics shows that when it is given before the appearance of the roseola the secondary and tertiary manifestations are always more severe.

The ulcer with its peculiar characteristics and the adjacent gland swelling are in themselves evidence enough to warrant a disposal of the ulcer if it be in a position causing distress, as, for instance, the face. Calomel locally will usually dispose of it. But best if possible leave the sore unhealed, treating it with neutral powders, such as subnitrate of bismuth, iodoform, etc., until all doubt has been removed.

The following from the *Dermatologisches Centralblatt*, Berlin, is pertinent to the subject:

"During the course of eleven years' observation at Pick's clinic in Berlin 65 cases in which the initial lesion was extra-genital and 1,575 in which it was located upon the genitals were treated. In the extra-genital chancres infection by mouth was the most frequent, the breast being next in order, while five lesions occurred on the fingers. The number of mouth affections was 44, 23 being in males and 21 in females. In 39 cases the chancre was on the lip, viz., 10 on upper lip, 24 on lower lip, 3 in the corner of the mouth, one on the upper and one on the lower lip in the same case, and one double chancre on the lower lip. Two were on the tip of the tongue and three on the tonsils. In the lip chancres, the greater number of which originated in fissures, and which presented themselves partly as ulcerations with indurated bases and partly covered by a brown crust, swelling and induration of the submaxillary glands was present, and never failed on the side corresponding to the lesion.

"Kissing was the chief etiological feature, but drinking-glasses, hand-towels, cigarette stumps, toothpicks, pipestems, and, in the case of double chancre, a bite, were the causes. In the two cases of tongue chancre the submaxillary glands were remarkably swollen and hard, and one of them could be traced to direct contact with the infecting chancre. The three tonsil chancres were on the left side and were crater-shaped lesions, with indurated borders and infiltrator bases. The typical swelling of the retro- and submaxillary glands was present in each case. In one case the nurse of a syphilitic child was infected through tasting the food in spoon before giving it to child. Of four primary lesions in the face one was in the celiular tissue under the right lower eyelid, two were on the chin, one of these probably from wound caused by infected razor, and one was on the cheek. Six were located on the mammae. In five of these cases the patient had nursed a strange child which later developed syphilis. In three cases in men the chancre was located on the abdomen. One case was on the perineum in a female and one was on the mons veneris in a male. Among the five finger lesions occurred in midwives."

Note.—A valuable soap known as "Sapolentum Hydrargyri, Gornet," may be obtained in four and five-grain capsules. It has a steel-gray color, and contains, when properly made, no visible particles of mercury. This soap is very popular in Vienna in the treatment of syphilis. H. L.C.

MECHANO-THERAPY AND TUBERCULOSIS PULMONALIS.

By Axel. V. Grafstrom, B.Sc., M.D.
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TUBERCULIN and the various preparations of anti-tubercle serum have so far not given any brilliant results as curative agents, although they have opened the way for researches. In the serum treatment, or in a treatment based upon similar principles, our hope is concentrated, and some day in the future it will perhaps solve the problem and furnish a rational treatment for the cure of this disease. To-day a successful treatment must be founded on natural law. Either an inherited or acquired constitutional weakness, which finally becomes progressive, is to be found

in the majority of patients suffering from this disease. The soil is prepared for the reception of the tubercle bacilli, and when once it is comfortably settled in the lungs these weakened organs can offer little or no resistance to the ravenousness of the unwelcome guest. Our efforts must now be so directed as to stop the general progressive weakness, to strengthen the respiratory organs, and to alter the soil into one which is unfavorable for the tubercular development. By a judicious use of fresh air, sunshine, a suitable climate, wholesome and nutritious food, together with proper drugs, water, and exercise, we will often succeed in preventing the disease, in checking it and prolonging life, and sometimes in effecting a permanent cure. The tubercle tends to fibrous formation, to cicatrization and healing, if properly received and taken care of. Regarding the exercise, it must be so regulated as to suit the physical condition of each individual case, and it must be under the control of the physician, not the patient. Now, the question will arise, what kind of exercise should a patient suffering from phthisis take? Our answer is: when first getting a patient under observation a course of mechano-therapy should be established with daily *seances*. With proper care this can be done in every case. And when the patient's strength returns and the hope of cure enters his heart, then is the time when out-door exercise should be combined with medical gymnastics and massage. We must remember there are three contra-indications to active exercise in pulmonary tuberculosis, namely: fever, hemorrhage, and extreme debility. Properly given, mechano-therapy will assist Nature to overcome these abnormal conditions, and to lay up a stock of potential energy. The late Dr. Alfred L. Loomis, of New York, used to lay great stress upon the rule, that active out-door exercise was positively contra-indicated in phthisical cases when the temperature rose to 100 degrees Fahr. or above. Undoubtedly patients suffering from tuberculosis pulmonalis are best treated in proper sanitariums. In most of them, especially those abroad, medical gymnastics and massage constitute important factors in the routine treatment. As we all know, *Mechano-therapy* is the mode of treating diseases by movements. It is a science both in theory and practice, and it is founded on purely scientific researches, discoveries and facts. Its path runs parallel to, and in close contact with, physiology, anatomy and pathology. It is divided into two branches: *Medical gymnastics* and *massage*. By medical gymnastics we understand that branch which deals with active and passive movements of different joints of the body. Massage is a series of passive movements executed on the patient's body in a variety of ways, and constitutes the other branch of mechano-therapy. Finally, by respiratory exercises or movements we understand such medical gymnastics which will strengthen and develop the respiratory muscles and elastic lung tissue. Here we will give a short schedule of the principal respiratory movements as recommended by the foremost men in Europe engaged in the practice of mechano-therapy:

1st Group Mild.	(*a.*)	Passive chest-lifting (passive movement);
	(*b.*)	Active chest-lifting (simple active movement);
	(*c.*)	Active expansion of thorax (simple active movement).
2nd Group Medium.	(*a.*)	Circumduction of arms in abduction (passive movement);
	(*b.*)	Circumduction of arms in extension (passive movement).
3rd Group Strong.	(*a.*)	Flexion and extension of trunk under resistance (complicated active movement);
	(*b.*)	Flexion and extension of arms under resistance (complicated active movement);
	(*c.*)	Abduction and adduction of arms under resistance (complicated active movement).

When performing (*b*) and (*c*) of the first group the patient occupies the standing posture. The other respiratory movements are generally executed with the patient placed in either the sitting or the astride sitting posture.

In the treatment of tuberculosis pulmonalis the use of mechano-therapy is governed by following rules:

1. When the patient is suffering from great weakness, hæmoptysis, and pyrexia; *the general massage treatment* should only be employed.

2. When the patient is comparatively free from these symptoms give the *special treatment*, consisting of respiratory movements and local massage, in the forenoon, and *general massage* in the evening.

3. The respiratory movements should be used either in the open air or in a large, sunny, and properly ventilated room; the general massage should be performed in the patient's sleeping apartment at bedtime.

4. In using respiratory movements commence with the milder ones, and slowly increase the strength and time of the treatment.

5. The respiratory movements should follow the rhythm of an ordinary respiration, viz.: a slow inspiration and a somewhat quickened expiration. Always let the expiration be followed by a prolonged pause.

Action of respiratory movements:

(*a*) When the chest expands (for inspiration) the viscera are drawn toward the chest, and the circulation of blood in the larger veins is hurried up. In certain movements the suction in the vena cava becomes from five to six times as great as during ordinary respiration. During the expiratory act there is a retardation of the veinal current while the arterial circulation is somewhat accelerated.

(*b*) The tidal volume of air passing in and out of the lungs is increased, and thereby the amount of oxygen taken in is increased.

(*c*) The depth rather than the number of respiration is increased.

(*d*) The respiratory muscles and the elastic lung-tissue are developed and strengthened.

The local masssage consists of friction and kneading of the chest and back; ulnar percussion of the chest; dorsal percussion of the back; and palmar pressure and vibration of the thorax.

Action of local massage:

(*a*). The circulation of blood in the bronchial arteries is increased, and more nutrition is brought to the vesicular tissue of the lungs; consequently

it will increase this tissue in strength, elasticity, and distensibility.

(*b*) The air cells and capillaries are put into an oscillation, which will bring the air and blood into a more intimate relationship, and make the diffusion of oxygen and carbonic acid more perfect.

(*c*) It will dissolve the mucus and aid the expectorations.

(*d*) It will break up old pleuratic adhesions.

Action of the general massage:

(*a*) Stimulation of the different functions of the body.

(*b*) The night sweats will be checked.

(*c*) It acts as a mild sedative on the nerves.

(*d*) It produces sleep.

At last, although a science in itself, it must be borne in mind that mechano-therapy is only a remedial agent to be used by the physician as a part of the general treatment, and when used with judgment, patience, and skill, it will only aid Nature in her battle against this disease.

OVARIOTOMY IN THE AGED.

By A. Morgan Cartledge, M.D., Louisville, Ky.

IT is not my purpose to discuss in detail neoplastic developments in structures supposed to have reached the quiescent or annihilation stage of retrograde metamorphosis, nor to dwell upon any special features of operative methods in very old women, who are the subjects of ovarian cysts. I merely wish to place on record a case especially interesting, as the result of the advanced age of the patient and the easy manner of her convalescence from the operation of ovariotomy. On May 10, 1897, I was requested by Dr. C., of Illinois, to see his mother-in-law, Mrs. W., born October 29, 1816. Married fifty-six years. Mother of ten children; no miscarriages. She was never a strong woman, but did not remember to have had any serious illness. Passed the menopause at the age of forty-nine, normally.

Eighteen months before the time of my seeing her, or about January, 1896, her family noticed some abdominal enlargement, and soon thereafter she complained of the usual pressure symptoms of abdominal growth. Latterly, the gastric and digestive disturbances from pressure had been very troublesome. Emaciation and ovarian expression appreciable, but not marked. An examination revealed the abdomen well filled with an encysted growth, which was diagnosed ovarian. Naturally the great age of the patient, eighty years, seven months and fifteen days, made the decision as to operation a debatable one. I was aware of the case of Homan's and one or two others, of ovariotomy in women of such extreme age, and determined that if the general condition justified such a course to operate. Fortunately our patient, aside from her age, had every reason demanding an operation. Her general physical condition was unusual for a woman of her age, and while always frail, she was very active, and maintained this activity to a remarkable degree in her declining years. Another feature (I take it of great importance) in deciding the question of operation in such cases was the condition of the intellect. Mrs. W. was very unusual in this regard, being possessed of the mental capacity of the average woman of sixty-five. She had been accustomed to taking long walks, reading the morning papers with keen interest. She was much loved, and in every way an active member of her household.

An operation was deemed justifiable, and a frank statement of her condition made to the patient. She unhesitatingly accepted the operation, which was performed May 12, 1897. Chloroform was the anesthetic employed. The cyst (true ovarian) originated from the right ovary, was multilocular and weighed about forty pounds with fluid. There was slight adhesion to the anterior parietes and omentum. Time of operation, fourteen minutes. The remaining ovary was not larger than a small bean, but could be recognized as such; the uterus about the size of the thumb. There was no appreciable shock; the pulse about 100 at the beginning of the anesthesia, and in the eighties when the operation was completed. Her convalescence was as easy, if not the easiest I have ever seen after an ovariotomy. No vomiting; little pain; sleeping five hours the first night. Her condition was practically normal in forty hours. She sat up on the 26th day of May, or fourteen days after the operation, and left the infirmary the 29th day of May, or the seventeenth day after the operation. She is now in her eighty-second year. Has recently made three quilts and is as active and happy as a woman of sixty-five.

Few ovariotomies have been performed in women aged eighty or more, but the results have been so favorable in the reported cases that we are justified in urging operation if the general condition warrants. Homan's case at eighty-two years and four months; Owen's at eighty, and Matthews Owen's at eighty-seven (*Lancet*, 1895) being the most prominent. In the Johns Hopkins Report, Vol. III, page 509, 1894, is collated and tabulated by Drs. Howard Kelly and Mary Sherwood one hundred and fifteen cases of ovariotomy in women over seventy years of age, most of them being from seventy to seventy-four. The results about equal those in younger women. In one hundred and fifty ovariotomies Dr. Kelly has operated five times in women over seventy. I have operated seven times in women over sixty years. None over seventy, except the subject of this report.

A CASE OF VEGETATIVE ENDOCARDITIS WITH MULTIPLE EMBOLI.

By Frank Billings, M.D., Chicago, Ill.,
Professor of Practice, Northwestern University Medical School, etc.

E. B., Hebrew-American, aet. 31, single, commercial traveler, came under my care on October 13, 1897. He arrived in Chicago on October 12 from California. He was in a semi-conscious state, and answered questions incoherently. The temperature was 102 degrees F., and the pulse 110. The respirations, irregular in frequency and depth, were about thirty per minute. There was complete left hemiparesis with right conjugate deviation of the head and eyes. The left eye was deviated much less than the right. The right pupil was moderately dilated and

fixed. The left pupil responded to light and was smaller than the right. The tongue deviated to the left, was tremulous, and protruded with difficulty. There was considerable general muscular rigidity, more of the right than of the left side. The deep and superficial reflexes were increased, more of the right than of the left side. Ankle clomes was present, more marked of the right side. The patient manifested considerable signs of pain when the extremities were passively flexed and extended. Catheterization of the bladder was necessary and the bowels were confined. There was no discoloration or unusual eruption upon the skin. The skin was moist with sweat. There was fairly good amount of subcutaneous fat present. The lungs appeared normal. The apex beat of the heart, diffuse and rather weak, was one inch to the left of the nipple line and in the sixth interspace. The cardiac dullness extended one inch to the left of the nipple. The right border of dullness to the right sternal border. A loud systolic murmur was heard over the whole cardiac area, loudest in the mitral area and at the apex, and transmitted into the axilla. The pulmonary and aortic second sounds were accentuated. The heart action was rhythmical. The radial pulse quick and rather hard. The blood was negative for malarial plasmodia and the red and white cells presented no unusual appearance. A specimen of urine showed a specific gravity of 1.017, neutral reaction, urea 1.7 per cent., albumin present in large amount, and a few hyaline and granular casts. There was no blood or pus in the urine.

The patient was at once removed to Mercy Hospital. He was placed at absolute quiet rest, frequent sponge baths were ordered, and a milk diet. A dose of calomel was given, followed by a saline. Tincture of veratrum (minim i) every hour was ordered until the pulse diminished in frequency and hardness, and was then given every two or three hours. The temperature became normal within two days, the pulse rate diminished to 92 to 100 and became soft and compressible. The patient's mind became clearer and the paresis less marked. The deviation of the head and eyes diminished. The apex of the heart passed more nearly to the left nipple line, the cardiac murmur was less rough and loud and the accentuation of the second sound was less marked.

At this time the following additional history was obtained: Father died of pneumonia aet. 40, mother aet. 61 living and well; two brothers, one living aet. 28, well; one died in infancy; one sister aet. 36, living and well.

No tuberculosis or malignant tumors in family. Patient never used alcoholics to excess. Has smoked excessively for years. Had measles, scarlatina, and mumps during childhood. Had acute articular rheumatism when 16 and again when 29 years old. Contracted syphilis when 22 years old and received treatment for several years. Apparently recovered. Had gonorrhoea when 25 years old. Slight stricture of urethra followed. Treatment resulted in cure. From 1892 to 1896 slight attacks of pharyngitis, laryngitis, and furuncles.

From May 22 to June 4, 1897, had a mild attack of fever and chills preceded by bronchitis, and attended with epigastric tenderness and muscular soreness, followed by complete recovery.

A cardiac murmur was said to exist and remain after the first attack of acute rheumatism.

On June 15, 1897, he left for California, stopping en route at many points to meet business engagements. Worked hard and was weary much of the time. Was again seized with rheumatism while in San Francisco, and was in a hospital for a month. Then spent two weeks at Elsmore Springs, and took mud baths. Left for the East on October 8. Became so much worse on the second day of the journey that he was unable to rise. From that time on he remembers but little of what passed until he reached Chicago.

Potassium Iodide, gr. x three times a day, was ordered in addition to the treatment formerly instituted. After a few days the drug was increased to gr. xx thrice daily. Inunctions of mercury (drachm i) were also added.

The patient continued to improve until October 22, when he suddenly became mildly delirious; the pulse became rapid, quick and tense and the temperature rose slightly. Numerous petechial spots were found on the skin, most numerous over the chest, neck and arms, but present in the skin everywhere, including the palms of the hands and soles of the feet. A few were seen in the conjunctivae and in the pharynx. There was no increase in the hemiparesis, although the head and eyes were inclined to deviate to the right. The apex of the heart was again dislocated further to the left, the systolic murmur was very loud and rough, the second sound was very accentuated, and a faint diastolic murmur was perceived for the first time in the mid-sternal region. The blood findings were negative, including the blood drawn from a petechial spot and stained for bacteria. The liver was somewhat larger than normal and was tender. The spleen was palpable, rather soft to the touch, and tender. The urine was amber, clear, specific gravity 1.015, alkaline, urea 2 per cent.; albumin, large amount; hyaline granular and blood casts were present and free red cells were abundant.

The signs and symptoms pointed to multiple embolism involving probably all organs.

Dr. Frank S. Johnson saw the patient in consultation and concurred in the diagnosis. Dr. H. M. Starkey made an ophthalmoscopic examination and diagnosed double choked disk; the arteries of the retinae were very small and the veins were very large and tortuous.

The same treatment was continued; the veratrum was given frequently enough to control the rapidity of the heart and the high blood pressure.

From this time onward every two or three days a crop of emboli would be sown broadcast. When only a few were shed from the heart the general disturbance was so slight that it could not be recognized. When the emboli were greater in number, the pulse became faster and somewhat tense, the temperature would rise slightly, the mental state of the patient would become more clouded, the liver and spleen would enlarge perceptibly and become more tender, the albuminuria would increase, and more blood would be found in the urine.

At no time until the day of death did the temperature rise above 100 degrees F. The pulse ranged from 100 to 120 and the respirations 30 to 36 per minute. At no time was there a chill. Inflammation or suppuration did not occur in the petechia or in other parts of the body. During the two or more days intervening between the crops of emboli the patient improved mentally, took more food, and gained in strength.

On October 29 at six p. m. no right radial and ulnar pulse could be felt. The right arm, forearm, and hand were pale and cold. A swelling the size of a navy bean could be felt at the distal end of the axillary artery. Above the swelling the arterial pulsation could be felt. Below the swelling there was no pulse. Artificial heat was applied to the extremity. Collateral circulation was sufficient to maintain vitality in the member. The patient manifested no discomfort except a sense of numbness in the limb.

The potassium iodide was omitted. Veratrum and the mercurial inunctions were continued and strychnia sulphas gr. 1-30 hypodermically every six hours was added.

On November 3 an unusually large crop of emboli were sown. The general disturbance was considerable. The patient required bromides to calm the delirium. Improvement again occurred, and from November 5 to 10 the gain was so great that the shedding of emboli apparently ceased. The pulse fell to 90 to 100 and the temperature was normal. The patient expressed a desire for certain articles of food, recognized friends and became much stronger. Dr. Starkey reported much improvement in the eyes. The arteries were larger and the veins smaller. Vision was blurred, but improved.

At midnight October 11 multiple general embolism occurred. Complete right hemiplegia with unconsciousness resulted. Hundreds of petechial spots appeared. Death occurred seventeen hours later. The pulse increasing in frequency from 100 to 160 and the temperature rising from the normal to 103 degrees F. at death.

A post mortem examination was not allowed.

There can be no doubt that acute vegetative endocarditis was the fundamental morbid process in the last illness. This was probably of rheumatic origin. The vegetations were probably not due to bacteria of septic origin, because the infarcts and petechia resulting from the emboli did not suppurate or produce chills, fever or general disturbance. The chief cerebral symptoms were doubtless due to embolism, although it is probable that thrombosis also occurred. Syphilis possibly had some influence in producing the cerebral disease, including the optic neuritis, and the mercurial inunctions were therefore given.

Septic or ulcerative endocarditis with multiple general embolism, chills, fever, typhoid state, etc., etc., is not rare.

I have never before seen a case of endocarditis with apparent non-septic or non-infective multiple general embolism, producing such mechanical effects, without chills and fever. The patient living and reacting from the numerous sowings of emboli and died only when the vessels of the brain received an unusually large crop of the foreign particles.

SOME REMARKS UPON CONSERVATIVE SURGERY OF THE UTERINE APPENDAGES.*

By A. Palmer Dudley, M.D.,
Surgeon to Harlem Hospital; Professor of Gynecology, Post-Graduate Medical School; Professor of Gynecology, University of Vermont, New York.

My object in choosing this subject of "Conservative Surgery upon the Uterine Appendages" for a short paper for this meeting is twofold: First, to answer some criticisms that have lately been made upon my work in this direction, and, secondly, because for years I have been deeply interested in the work of attempting to save portions of these organs and restore them to proper usefulness, and I desire that the members of this association should know the results of my work.

To what extent can we do conservative surgery upon the uterine appendages with safety to the patient?

In my attempt to answer such question I will simply give you the results of my own experience. Having long years ago seen the removal of what I considered healthy and fat ovaries, so far as the eye could tell, for the relief of apparently trivial pelvic disease, and the patients recover, also various forms of surgery upon the uterus itself with the same good results, I determined, if possible, should a case present, to test the recuperative power of the ovary. On October 18, 1887, I did my first operation of this kind.

In doing any form of ovarian surgery, if we intend to save any of the organ, we should save all we possibly can.

I have cross-sectioned it and sewed it together; I have taken V-shaped pieces out of it and closed the remainder, and for cystic degeneration I have punctured it through and through, in many cases many times; I have even removed almost the entire ovary, leaving a portion, possibly not larger than a pea, and fastened that to the extremity of the tube.

I will say that in all this work I have never used animal suture of any kind, but always the finest embroidery silk, sterilized, and applied with a cambric needle. I have curetted the surface of the ovary with a sharp curette, and touched it with pure carbolic acid. I have removed pus from the ovary, and left the remaining apparently healthy portion, and, as I previously said, have seen but the one case of inflammation follow that I could make out by bimanual exploration.

In the treatment of the Fallopian tube I can also say that I have treated it in a conservative manner for many forms of disease. I have opened up an occluded tube in many cases, but when doing so I always treated it in the following manner:

I make a phimosis operation on the remaining healthy portion by slitting it up a half-inch or more on the upper surface, rolling out the cut surfaces as we would the prepuce, and then with fine silk and running suture stitching the mucous lining of the tube to its peritoneal covering all about, in this way preventing reocclusion of the tube and allowing the ciliated epithelium to act in the place of the fimbriae which have been removed.

In these cases I invariably fasten the remaining portion of the ovary to the tip of the remaining portion of the tube by fine silk suture. In none of the cases so far that I have selected for this kind of work have I had cause to regret it.

I have even gone further than this. I have operated upon tubes distended with pus, washed out the latter with an aseptic solution, after having passed a fine probe through the tube into the uterus, and reopened the tubo-uterine stricture, and had my patients recover without the first signs of peritonitis. I qualify this statement with the one that I never treat a tube thus affected in such a manner if there be any odor to the pus showing internal gonorrheal or septic inflammation.

I have on my records several cases of pyosalpinx treated in such a manner whose after-history I have carefully followed up to the present time, and as yet they have had no recurrence of inflammation and have menstruated regularly every month without trouble.

My reasons for having devoted myself to such work are:

1. That I believe that no surgeon can anticipate just what effect an early induction of the menopause by ovariotomy will have upon a woman's nervous system. Some it will affect in one way, some in another; some will put on flesh, some will lose it; some will be cheerful and contented, others will be melancholy. In many cases the domestic relations are destroyed by the knowledge of the husband or wife that she is not a perfect woman, and that what every woman should have preserved, if possible, she has been deprived of.

They all suffer more or less from hot flashes, and in many cases the latter become a very troublesome condition, the heart palpitation and hot flash creating a constant fear of future evil. Many times in the past I have had my patients return to me and complain that these nervous symptoms were dreaded much more than the condition for which I did the operation, while expressing a regret that they had ever undergone the same.

* Abstracted from "The American Journal of Obstetrics and Diseases of Women and Children," Vol. XXXVII, No. 1, 1898.

THE POSSIBILITIES OF ANTITOXIN IN DIPHTHERIA.

By George Suttie, M.D., Ph.C.
Harper Hospital Polyclinic Staff; Lecturer on Organic Chemistry, Detroit College of Medicine.

Having had something to do with the introduction of antitoxin for the use of the Contagious Department of Harper Hospital of this city, and having watched its administration from the beginning, the writer believes that a very much better percentage of result is attained with the early use of antitoxin in situations where hygienic conditions prevail, such as are found in a well-conducted hospital or even in the average private practice.

Antitoxin was first used in Harper Hospital in the fall and winter of 1894 in a sporadic tentative way. Forty-four cases of diphtheria were treated with the Aronson and Behring's serum, with four deaths (exclusive of three moribund on admission) and a death-rate accordingly of 9.1 per cent., when it happened that the supply of these became exhausted. At this juncture Parke, Davis & Co.'s diphtheria antitoxin was employed and found to be fully equal to any of the serums which had been previously employed; indeed, this is putting it too mildly, for not only did fewer disagreeable sequelae follow its hypodermic administration, but cases progressed manifestly better under it. Thus in the remaining period of 1895 there were twenty-five cases, all of whom were treated with this serum (with exclusion of one moribund on admission). There was one death among these, death-rate accordingly being 4.1 per cent.* Four were tracheotomy cases, with four recoveries.

In 1896 there were 112 patients admitted to the diphtheria ward of the Contagious Hospital, twelve being subjected to intubation, six to tracheotomy, with only five deaths, "three of these being moribund cases when brought to the hospital, dying within a few hours of their arrival."† There was, therefore, a mortality of 1.8 per cent. These cases also received the Parke, Davis & Co.'s serum.

For the present year, 1897, up to December, there have been treated ninety cases of diphtheria in the hospital, with six deaths. One case was certainly moribund on admission, another may be called doubtfully so, but without excluding the latter, the death-rate was 5.6 per cent. The antitoxin used was the same.

The notable diminution in the death-rate as above given led the Detroit Board of Health to decide to furnish diphtheria antitoxin gratuitously to patients too poor to pay for it, this also including patients under charge of the city physicians, poor patients at Harper Hospital sent there by the Board of Health, at the Women's Hospital and at the Protestant Orphan Asylum. This was done from May 1,

* *Vide Therapeutic Gazette*, February, 1896, detailing these cases.

† *Harper Hospital Bulletin*, February, 1897.

1896, and the number of patients so treated up to February 28, 1897, close of the official year,* was as follows:

	Cases.	Deaths.	Mortality Rate.
With Antitoxin	374	47	12.56 per cent.
Without Antitoxin	467	163	34.90 per cent.

In continuation of this series of observations are the following results from figures not yet made public, but kindly furnished me by the Board of Health. From March 1, 1897, up to December, the following cases came either under the notice or care of the Board:

	Cases.	Deaths.	Mortality Rate.
With Antitoxin	305	32	10.49 per cent.
Without Antitoxin	632	192	30.39 per cent.

The antitoxin employed by the Detroit Board of Health has been from the first that of Parke, Davis & Co.

These figures go to show that as experience in its use accumulates, and as both medical men and the public at large see the advantage arising from the use of antitoxin *early* in the diphtheritic invasion, there is attained a continued and steady improvement in results.

With patients in comfortable circumstances, assured of careful nursing, conscientious isolation, and the administration of a reliable antitoxin, there is very much to encourage the profession to expect a very close approach to the Harper Hospital figures—that is to say, a percentage of deaths not to exceed six or seven. This would certainly lift diphtheria out of the bad repute it has had hitherto of being one of our most fatal diseases.

Wholesale Adulteration of Food and Drink.—The recent meeting of the Pure Food Congress developed some startling facts in regard to adulteration of common articles of food and drink. The object of the Congress is to promote national legislation to prevent these adulterants being used and the Brosins Bill was endorsed. It is estimated that $90,000,000 annually is paid by the citizens of the United States for sawdust, sand, soap grease, horse fat, and other nauseous substances doctored and flavored with certain acids.

It was charged that one child in six dies from impure milk, and that impure water causes more deaths than alcoholic drinks. In papers read it was proved that all the daily articles of food were highly adulterated. "Wheat flour" was said to be made of damaged peas, ground rice and soapstone; powdered sugar of glucose, flour, clay, and sand. Cheeses are made from skimmed milk, lard, oleomargarine, while oleomargarine itself is composed of refuse pork fat, bone fats, candle grease, soap grease, and horse fat; grated horse radish is made from turnips, and olive oil is cotton seed oil; black pepper is mingled with mustard husks and brown dust, sawdust, red clay, cocoanut shells; allspice is mixed with cracker dust and corn meal; flour and cayenne pepper make mustard. Tea is colored with indigo and ground coffee is ground peas, beans and roasted acorns.

Whole "coffee beans" are made from potato starch, and here is cause for retaliation, because it is mostly imported from Germany.

Pure cider vinegar is sulphuric acid; maple sugar and syrup is glucose gelatine; jellies are entirely artificial, cream of tartar contains 5 per cent of oxalic acid, and arsenic and sulphate of copper are found in cheap candies.

Aneurysms of the Aorta.—In the *Deutsche Medicinische Wochenschrift*, June 10, 1897 (*Clin. Record.r*), Dr. B. Gerhardt, of Berlin, maintains that the last few years have established two important facts in regard to aneurysms of the aorta. The first is the comparative frequency of the latent forms, which occasion little if any disturbance and only a few slight vague objective symptoms, until they burst suddenly into a neighboring organ. The first indication of their existence is the paralysis of the left vocal chord, signaled by Traube. Auscultation will also sometimes reveal an arterio-diastolic sound, not perceptible at the emergence of the aorta, produced by contraction or dilation of the aorta. The pulsation is also a valuable indication in such cases; also heart systolic coarse râle. The second point is the connection between aneurysms of the aorta and syphilis. M. Schmidt has cured aneurysms of the aorta with anti-syphilitic treatment, and Gerhardt suggests that in certain cases we may be justified in combining mercury with the usual potassium iodide treatment. The large canals that carry air into the lungs, blood into the arteries, and food into the stomach, cross before the third and fourth dorsal vertebrae, and they are here exposed to numerous mechanical influences and movements. Each can compress the others at times, and this region is a chosen location for carcinoma, as well as for aneurysms, which are frequently accompanied by syphilitic tracheobroncho-stenosis. In tabes, also, aortic insufficiency is the usual heart defect. In twenty-five cases of aneurysm of the aorta in his clinic, seventeen were men and eight were women. In thirteen cases the diagnosis was confirmed by the necropsy. Nine of the men had had syphilis (53 per cent.). Other causes were trauma, five; potus, two; overexertion, three; anxiety, one, and anger, one. In eight cases there had been rheumatism.

The Nose and Menstruation.—The fact has been observed that the nasal mucosa undergoes certain modifications during the menstrual period, turgescence, exaggerated sensitiveness, tendency to hemorrhage and cyanotic discoloration. Fliess, of Berlin, has been studying this phenomenon and has found that a certain form of dysmenorrhea, in which the pains continue after the commencement of the menstrual discharge, is largely dependent upon the nose. He applies the term genital to those parts of the nose where these manifestations are most intense, namely the inferior turbinate bones and the tubercula septi. Lesions of these points produce this form of dysmenorrhea, while their cocainization arrests the dysmenorrheic pain as long as the effect of the cocaine lasts. Cauterizing will also arrest the dysmenorrhea permanently, or at least for a long while. These nasal congestions occur during pregnancy at the time when the menses would otherwise occur.

DEAR DOCTOR:

In one of my wakeful nights some time ago, being in a gentle mood, the substance of one of my prayers took rhythmical form, and would not let me sleep till I had risen and wrote it out. The next day I revised and corrected it, and here it is:

A PHYSICIAN'S PRAYER.

A contrite heart, a humble mind
I bring, O Lord, to Thee,
Renouncing sin of every kind
In all sincerity.

Lord, I would Thy commandments keep,
No laws of Thine deny;
Help me to climb the craggy steep
Where truth and duty lie.

When trials and vexation force
Unholy thoughts in me,
O may I not forget the source
Of grace and charity.

I would not ask for daily bread,
For fame, place or profit;
But will to work and wait, instead,
The reward of effort.

Give me, I pray, the gift to heal
And help the woes I see;
Wisdom to serve the common weal
And all for love of Thee.

Thy love, Thy truth, Thy excellence
Give Thou, O Lord, my meed—
Thy bountiful beneficence—
According to my need.

Thy gracious help to me impart
To walk in wisdom's way,
And daily light to do my part,
And guide me day by day.

To precepts of the wise and strong
Do Thou incline my heart;
Give me courage to fight the wrong,
And strength to serve the right.

And when I die and go to Thee,
No evil will I fear;
Love divine shall still enfold me
In Thy heavenly sphere.

ANNO.

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* Report of Board of Health, Detroit, Mich., for twelve months, ending February 28, 1897, p. 8.

The Medical Times

A MONTHLY JOURNAL

OF

MEDICINE, SURGERY, AND COLLATERAL SCIENCES.

EDITORS:

EGBERT GUERNSEY, M. D. ALFRED KIMBALL HILLS, M. D

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He is great who confers the most benefits. He is base—and that is the one base thing in the universe—to receive favors and render none. In the order of nature we cannot render benefits to those from whom we receive them, or only seldom; but the benefit we receive must be rendered again, line for line, deed for deed, cent for cent, to somebody. Beware of too much staying in your hand.—EMERSON.

THE MEDICAL DEPARTMENT IN WAR.

THE history of all wars shows that the bullet is more merciful to the soldier than disease. The strength of the army is not so much depleted on the battle field as on the march, in the hospital and the camp. Heretofore, when the war was over and the soldiers returned to their homes, they returned with the seeds of disease so deeply planted in their system that death for a long time reaped a rich harvest from their broken ranks. After the war with Mexico a large portion of the soldiers returned with a chronic diarrhea, brought on by indigestible food and drinking impure water. But the army medical staff has learned something since those days. The civil war was a great school to them and the now well-understood laws of asepsis and preventive medicine have banished to a certain extent the deadly gangrene from the hospital, and diminished vastly the ratio of disease by guarding against the causes. In the present contest, all the appliances of military science, directed with energy, skill and a bravery which knows no fear, are directed to the destruction of property and human life, and in the medical staff all the resources of medical science are brought with trained skill to keep the soldiers in good fighting condition by preventing disease and repairing the injury produced by bullet and shell. The surgeon is supreme as it regards matters of health. The field hospital in camp has unbounded authority. It is the surgeon who selects the proper place to camp, who each day looks over the men, even regulating their diet and seeing that the water they drink is freed from impurities. No army ever went into the field backed by such medical skill as the present. Ambulance vessels accompany the squadrons, fitted up with every appliance to save life, watched over by skilled surgeons and trained nurses thoroughly devoted to their work. Surgeon General Terry has raised, as a part of the volunteer quota of soldiers from this state, a hospital corps of three hundred men to succor the wounded on the battlefield, and care for them in the hospitals.

The field hospital service has an organization of its own. It is ready to start out on the jump at the first cry of battle, and a regiment has no sooner started to take up a position of offense and defense than its three surgeons—the regimental surgeon and his two assistants—are behind it, watching the movements and ready to take the best position the country offers, at the very first fire.

Just the precise points where these surgeons should place themselves so as to be of the greatest use in emergencies is a matter of judgment. The regimental surgeon understands every movement of the troops and why each is made. He has something of an idea of the battle. He and his assistants, according to the rules of military science, must place themselves somewhere back of the line of fire, directly in the rear of their regiment. A ravine, if possible, a shelter afforded by a house or a barn or a thick clump of trees is selected for each post, some place as safe from bullets as possible, while yet directly upon the battlefield. These posts are known as "outlying stations." Each regiment in battle has three of them, if possible, and here the surgeons, with incredible swiftness, "patch up" the men that are brought to them, preparatory to sending them back to the actual field hospital, at or near briagde headquarters, some distance in the rear.

These "outlying stations" have nothing of permanence about them. As the army moves forward they must move, too, and hence the surgeon's outfit is of the simplest sort. He has merely a small pocket case of instruments, and is unhampered by bag or sack. Close at his side, whenever he may wander on the battlefield, is his orderly, with a pouch that has in it every article that could be needed for emergency work. Bleeding could be staunched, amputations made, opiates administered, with the aid of this very compact medical and surgical kit. The chief articles the surgeon's orderly carries are ammonia, bandages, a pocket case of instruments, chloroform,

catheters, diagnosis tags, a first aid packet, consisting of a pad and a triangular lot of bandages, one yard of gauze, a jack-knife with a saw blade, a mixture of chloroform and opium, pins, a rubber tourniquet, ligatures, scissors and a hypodermic syringe.

Four men of each company are assigned to bring the wounded to the "outlying stations." If these men fall the wounded are carried back as best they can. All United States troops are now trained in the principles of "first aid to the injured," and can bandage roughly, handle a broken limb and carry a comrade so as to injure him as little as possible.

Besides this the field is covered with hospital corps men of a very high degree of efficiency. These men constantly scour the region of fighting, bringing in the dangerously wounded, carrying men on litters from the outlying stations to the field hospital half a mile or a mile back, and they move with the greatest expedition, for it is one of the chief principles of modern military medical science that wounded men must be removed from the field quickly.

These hospital corps men, who number hundreds on every big battlefield, are semi-surgeons themselves, for they are especially trained in the art of immediate relief. Each man carries a pouch that contains, among other things, ammonia, bandages, a case of pins, scissors and dressing forceps, a "first aid packet," a jackknife with a saw blade, splinters, surgical plaster, a rubber tourniquet and a roll of wire gauze for splinters, surgical splints. Many a life is saved by the prompt action of these men, who have the handling of a wounded soldier long before the surgeon can attend to him.

On the war vessels the wounded are cared for during the fight and removed to the ambulance ship as soon after as possible. An army or navy surgeon never looks upon a case as hopeless if there is enough of the body left to hold the soul, but cuts freely into the abdomen, the chest and even the brain, and with knife and saw and scissors and needles cuts and clips and mends, bringing parts into coaptation, packing and covering with aseptic gauze, leaving most of the work of recuperation to good nursing and nature.

Richard Harding Davis gives a graphic description in the New York *Herald* of a Brooklyn boy, terribly wounded by a bullet at the attack on Matanzas. The bullet had entered his arm, passed through his right side and came out under the left armpit. The operation lasted two hours and when completed he was carried to a cot so weak that for a time he seemed to be dead, but in a few moments he opened his eyes and turned them to the operating table, where, he remembered in a half drunken way, they had placed him two hours before. His eyes were dazed with the ether, his lips were blue and his face was a ghastly gray. He looked up at the four figures leaning over him, their bare arms covered with his blood, and back at the operating table that dripped with it. What had happened, who had attacked him, and why, he could not comprehend. He did not know that parts of him had been taken out and held up naked, palpitating and bleeding to the ruthless light of the sun, to the gaze of curious messmates crowded at the end of the sick bay, that these parts of himself had been picked over and handled as a man runs his fingers over the keys of a piano, and had then been pushed and wedged back into place and covered over as one would sew a patch on an old sail.

He only knew that some outrageous thing had been done to him—that he had been in a nightmare, in hell—and, still drunk with ether, these men whose wonderful surgery had saved his life were only the bloody assassins who had attempted it and failed.

He was pitiably weak from loss of much blood, from the shock of the heavy bullet that had dug its way through his body, from the waves of nausea that swept over him, but the boy opened his eyes and regarded the surgeons scornfully. Then he shook his head from side to side on the pillow and smiled up at them.

"Ah, you'se can't kill me," he whispered. "I'm a New Yorker, by God! You'se can't kill me."

WATER.

THERE is a strong tendency in the human mind to accept a positive assertion of some one who is supposed to have made a careful study of the subject as law and gospel, and though unsubstantiated by any logical proof, water has been treated with more injustice and has been less understood by even professional minds than any other necessary want to the human economy. Under the old system of Galen, with its law of *Contraria*, cold water was considered unsafe either externally or internally in cases of fever. A vision of the torture chamber in our early days comes with terrible distinctness, when the doors and windows were tightly closed, a warm fire blazing on the hearth, the body covered with flannel blankets and surrounded with hot bottles, and nothing but hot or warm drinks permitted. With the advent of Hahnemann a new light dawned upon the world, and a philosophy was introduced which recognized in the simple teachings of na-

ture the cause and prevention of disease and a cure to its many ills. The doors and windows of the sick room were thrown open to admit the fresh, pure air and the vitalizing sunshine. Water came to the front, pure and cold from the spring or relieved of all impurities by boiling or distillation, both as an external application and a beverage, cooling the heated system and washing out its impurities. The sick room, under the kindly teachings of nature was divested of half its old terrors, and death compelled often, very often, to relinquish his grasp upon those who, under the old treatment, would have been his victim. Still it is hard, very hard, to entirely disabuse the mind of old prejudices.

Every one hates to be fat, and to escape obesity is willing to forego almost any pleasure in eating and drinking and often tortures himself unnecessarily. Drink no water at your meals, is the universal dictum of all prescriptions for obesity. Why? Is there any fat in water? If there is chemists have not yet discovered it, nor how the combination of its elements with those of solid food will produce fat. Fat comes only from the food taken into the stomach, taken up by the asborbents and assimilated, and the use of water at meals can only contribute to the production of fat by enabling the patient to eat more and assimilate it to a larger extent. If a person wishes to gorge himself with food an abundance of water at the meals will probably cause a greater amount of nutrition to be assimilated and less to pass off as excrementitious material. If a person chooses to confine himself to a moderate amount of food, of the proper kind, there is no scientific reason why soup should be excluded or a small amount of water denied him. A moderate amount of water instead of retarding digestion really aids it, by increasing the secretion of gastric fluid and permitting it to mingle freely with the contents of the stomach.

The charge brought against Americans of the too free use of ice water is to a certain extent well founded. And yet ice water taken a few swallows at a time could hardly be called injurious. Cool water is a much better tonic to the stomach than hot water, and from a temperature of from 45 to 60 is in every way more desirable, so far as health is concerned, than very cold ice water or hot water. Hot water is often indicated where there is pain or great sensitiveness of the stomach, but as a drink in ordinary health, cool water is far preferable, but always in moderation like every thing else either in drinking or eating.

In the therapeutics of Galen the great trinity of so-called remedial agents were opium, mercury, and the lancet. One or the other of these potent agents was brought into active use in almost every disease. The great therapeutic trinity of to-day is water, food utilized from a physiological standpoint, and pure, fresh air vitalized by the sunshine. The potent drugs of over a half century ago, some of them useful at times, are in a great measure being relegated to the past, as we study more and more the therapeutics of nature, the leaves of whose book is ever open before us.

YELLOW FEVER IN CUBA.

NEW ORLEANS before the civil war was a center of yellow fever during certain seasons of the year, but under the sanitary management of General Butler the pestilence disappeared as if by magic, and following out the plan initiated by the war governor, New Orleans from that period to the present has been as healthy as any southern city. It only required the expenditure of a little money and the proper engineering skill to flush the sewers with mountain water and carry the refuse out beyond the harbor to transform Vera Cruz from a hotbed of pestilence to a healthy city.

What has been done in these cities in stamping out and preventing the development of yellow fever could easily be accomplished in Cuba. Dr. John B. Hamilton, a former assistant surgeon general of the Marine Hospital service in a recent address said that Cuba was as healthy a country, generally, as any in the tropics. The trouble had been made by man. He then enumerated the places where yellow fever was first propagated; the infected buildings in Havana, the infected wharves, and lastly the upper end of the bay of Havana. That, he declared, was the principal cause of the trouble. In part of the bay the water is stagnant and filthy, breeding disease, and on the banks is established the military hospital. Instead of taking the sick soldiers up on the hills, they are put in that old, infected building.

A consideration of the geographical conditions in Cuba showed that the hills back of Matanzas are 1,200 or 1,500 feet high, and back of Havana they are 800 or 900 feet high. By pitching camps on the hill, the speaker said, the danger would be greatly reduced. There is no other sea coast city where it would be so easy to keep troops, provided the system of regular and careful inspection be maintained. The stagnant portion of the bay of Havana could be purified by a canal from the Almendarse River and a period of a proper household sanitation would render Havana as healthful as any city in the tropics.

Dr. Hamilton concluded by calling attention to

the fact that England had given a lesson in sanitation at Jamaica. At one time Kingston was as subject to yellow fever as Havana, but now cases occur seldom. If there was no other cause for war with Spain her neglect of sanitation in Havana would be sufficient, Dr. Hamilton asserted. Any country which would carelessly allow such a disease-breeding center to affect the ships of the world without any effort to improve the conditions deserved the most severe and summary punishment.

BELLEVUE HOSPITAL.

THE opportunity for study and instruction in Bellevue, owing partly to its being the great accident hospital of the Department of Charities, is probably second to none in the world, and a membership of its Medical Board is consequently highly prized. The peculiar constructions of the rules of the Board gave a practical monopoly to three colleges: the Bellevue Hospital Medical College, the New York University and the College of Physicians and Surgeons. These colleges actually controlled the appointments to fill all vacancies, thus closing the door, if they chose, and they generally did choose, to men of marked ability outside of the teaching members of these faculties, including the Post Graduate and Polyclinic, whose clinical work has been of the utmost value to the profession. The recently appointed Commissioner of Charities, Mr. Keller, has taken the matter into his own hands and will appoint what he considers the best men in the profession irrespective of their connection with any institution of learning. The new Commissioner has shown a peculiar fitness for the duties of an office which has under its direction the care of the public charities of this great city in relation to its sick and poor and, we have no doubt, the appointments will be wisely made.

NOTWITHSTANDING the failure at the time, of an effort to consolidate the New York University and the Bellevue Hospital Medical College, the recent withdrawal of several of the professors of the University Medical College and the establishment of a new college as a department of Cornell University, has led to a reconsideration and a union of the two institutions. The united institutions will be known as "The University and the Bellevue Hospital Medical College." The two properties in East Twenty-sixth Street will both be owned by New York University and used by the united schools.

In the faculty of the new schools Dr. Edward G. Janeway will be dean and seven professors of the former university medical faculty will have places. Beside these, there will be twenty-one professors and adjunct professors of the former Bellevue medical faculty and thirty or more lecturers, instructors and assistants.

The faculty of the Medical Department of Cornell University has been completed and will commence active work in the fall.

BIBLIOGRAPHICAL.

THE DISEASES OF THE STOMACH.—By William W. Van Valzah, A.M., M.D., Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital; and J. Douglass Nisbet, A.B., M.D., Adjunct Professor of General Medicine and Diseases of the Digestive System in the New York Polyclinic Medical School and Hospital. Illustrated. Philadelphia: W. B. Saunders, 1898. Pp. 674, octavo. Price, $3.50.

This book we think may be justly claimed as above all of its class in being practical.

As a valuable contribution to scientific medicine, there is no doubt but it is intended for the advanced student and the general practitioner, for no others could fathom the depths of its phraseology sufficiently to understand the meaning.

The methods of diagnosis and treatment adopted are of the most advanced variety and worthy of careful study. No space is wasted on discursive anatomy, nor upon the theories of general pathology.

The various diseases are treated in a logical manner from etiology, through pathology, clinical description, diagnosis, differential diagnosis, prognosis and ending with treatment. The needs of the general practitioner are evidently kept in view constantly, although the methods and apparatus are equal to the most advanced work in its line.

On the subject of treatment the authors leave no doubt as to what they deem the better course, and insist upon the most careful individualization in every case.

The subject of dietetics will be found unusually complete, the nutritive value of various foods fully discussed, together with their special application in particular cases with a view to ready selection.

On the whole, we may justly say that it is the most practical book of its class of which we know, and well suited to the general practitioner. It is too deep for the junior student.

DAY DREAMS OF A DOCTOR.—By C. Bailow, M.D. The Peter Paul Book Co., Buffalo, N. Y., 1898.

The author says in his preface that it has seemed to him that the medical profession has never been fully appreciated by the layman, and one of the objects of his book is to show in a comprehensive way the peculiar life and work, his responsibilities and the invaluable service the physician renders Society, and the dangers to which he is exposed. Woman is recognized as the equal of man in many walks of life. A vein of romance runs through the work which makes it readable and interesting.

A LABORATORY TEXT-BOOK OF PATHOLOGY FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE.—By Horace J. Whitacre, B.S., M.D., Demonstrator of Pathology in the Medical College of Ohio. With 121 illustrations. Philadelphia: P. Blakistin, Son & Co., 1897, Pp. 172, octavo. Price, $1.50.

This little volume, as its size would indicate, is not a complete treatise on the subject treated, but rather, as its title indicates, a text-book, and particularly adapted to students, because it is confined to the characteristics of the study, such as one who has little or no knowledge of the matter wants to begin with. The illustrations are actual pictures as seen under the microscope, just what the student wants. We shall commend the book to our students.

ILLUSTRATED SKIN DISEASES: An Atlas and Text-book with Special Reference to Modern Diagnosis and the Most Approved Methods of Treatment. By William S. Gottheil, M.D., Professor of Skin and Venereal Diseases at the New York School of Clinical Medicine. New York: E. B. Treat & Co., Publishers, 241 243 West Twenty-third Street.

This work will be issued in twelve *quarto portfolios*, each comprising twenty-four quarto pages of text, with numerous formulae and four plates of cases from life reproduced in colors with lifelike effect by a new photographic process. A photographic gallery with all the modern equipments and scientific accessories in a public medical institution of New York has enabled the author to make a large collection of negatives in the department of clinical dermatology. Most of the cases are taken from the author's extensive hospital, dispensary, and private practice, and prepared under his own immediate supervision. The text is profusely illustrated with numerous black and white illustrations from photographs from life, and the treatment fully up to the most advanced standard of modern therapeutics. Three portfolios of this artistic and scientific work are before us and give rich promise of the value of the book when completed. Price $1 for each portfolio.

CENTURY MAGAZINE.—Besides the article on the "Causes of the Failure of the Spanish Armada," by Captain Mahan, the June *Century* contains "Ten Months with the Cuban Insurgents," the experience of a major in the army under Garcia; and an article on "The Confederate Torpedo Service," by the electrician of the torpedo division in the confederate navy, who laid the mine which blew up the first gunboat ever destroyed by this means, as it will be seen, in addition to its usual artistic and literary productions, is full of special interest at the present time.

THE LIVING AGE.—"The Spanish Sketches," by Pierre Loti, which the *Living Age* is printing in an excellent translation made for its pages by William Marchant, exhibit the picturesque descriptive powers of that charming writer at their best. One sketch in the first group gives a glimpse of the Queen Regent of Spain.

The *Living Age* is broad, fresh and varied in its contents, and brings us in direct touch with the best journalistic literature of the old world.

VOLUME I., April, of the eighth series of international clinics; published quarterly by J. P. Lippincott & Co, contains an unusual number of excellent practical clinics by eminent authors at home and abroad. These clinics cover a large number of subjects in almost every department of our profession. They are mostly short, but each treating of individual cases are eminently practical in their character and so suggestive that they can readily be utilized in a large variety of cases. The charts, plates and figures of which a large number are given, are of great value in watching the progress of the various diseases.

HOSPITAL REPORTS.

GENITO-URINARY DIVISION.

METROPOLITAN HOSPITAL, NEW YORK.

Service of Bukk G. Carleton, M.D., Drs. L. E. Marter and J. L. Peck, House Surgeons. Reported by Dr. Peck.

During the months of January and February 1898, the following cases were treated without a death. On account of their general interest and the adoption of some new methods of treatment, a few selected cases of the ninety-five operated are herewith presented:

GONORRHEAL RHEUMATISM.

Gonorrheal rheumatism has, until the past two months, been the bane of the genito-urinary ward, but since Dr. Carlton had instituted the use of the Esmarch bandage the results have been as brilliant as unexpected. The bandage is applied as follows: If the gonorrheal rheumatism is in the knee, which is a favorite seat of this disease, the Esmarch is applied, beginning at the ankle and encircling the leg to the lower border of the knee; beginning above the knee another bandage is applied enclosing the thigh. The bandage is wound sufficiently tight to obstruct the circulation, and left on from fifteen minutes to one hour, according to the tolerance of the patient.

Dr. Carlton says the bandage acts by destruction of the gonococci, due to their deprivation of oxygen. After from one to six applications the indicated remedy removes the symptoms and cures the cases as could be expected in ordinary rheumatic disorders.

A, age twenty-five, had gonorrhea three years ago, another attack three months ago. Gonorrheal rheumatism developed in left knee one week after appearance of urethral discharge. It is swollen, red and very painful; pains worse at night and when lying down. The Esmarch bandage was applied twice, twenty and thirty minutes respectively, and mercurius biniodide 2x prescribed. In one week he was so much improved that he asked for his discharge from the hospital.

B, age thirty-one. Ten days after gonorrhea appeared gonorrheal rheumatism developed in his right knee, accompanied by swelling, pain and stiffness of the knee, pain worse at night and on slight motion. Later effusion occurred, with weakness and stinging pain in the affected joint. Two months after infection he came under our treatment suffering from the symptoms described. The Esmarch bandage was applied twenty and thirty minutes for two successive days and apis given internally. Complete relief soon followed and the patient returned to his occupation.

C, age twenty-seven, had gonorrhea three months ago; one month later gonorrheal rheumatism developed in both knees and shortly after in both elbows. He has been confined to his bed for nine weeks with this malady. One application of the Esmarch was made to his right leg and each arm and two to the left leg, the bandage applied for twenty-five minutes each time. Rhus tox. 3x was prescribed on symptomatic indications, and, in four days after the last application, the patient was able to be out of bed. In three weeks he asked for his dismissal, saying he felt sufficiently well to return to his occupation as bookkeeper.

VARICOCELE.

A, age fifty, varicocle left side, giving usual physical signs. He suffered with dragging sensations and pain in left testicle, extending up spermatic cord into left inguinal region, much pain in back, with right sided frontal headaches. For a long time he has been harassed by frequency of urination, especially at night. His condition was aggravated when in a reclining posture. Careful examinations showed the entire absence of urethral, prostatic or bladder disease. Urinalysis negative.

Treatment—Preparation: twelve hours before operation the scrotum, perineal and pubic regions were carefully shaved and scrubbed with green soap and hot water. The parts irrigated with bichloride of mercury 1-3000, and protected with a dressing wrung out of the same solution of bichloride. When placed on the table this dressing was removed and the parts again thoroughly scrubbed and irrigated as before. Sterilized towels were then placed over the surrounding parts and held in place with a sterile bandage, exposing only the scrotum. The patient then assumed the erect posture beside the operating table, and Keye's operation for varicocele performed, the proposed points of puncture being first anaesthetized by the hypodermic injection of four drops of a four per cent. solution of sterilized cocaine.

Two subcutaneous ligations were made with sterilized silk. Before tying the ligatures the patient was placed on his back on the operating table, the scrotum elevated by an assistant, to allow the escape of excess of blood from the veins. The lower and upper ligature were then tied tightly and, after the ends of the ligatures were sewed, they were allowed to slip back into the scrotum. The scrotum was finally irrigated with bichloride 1-3000, and the punctured points dusted with sterilized iodoform, sterilized iodoform and plain bandages applied and held in place by straps of adhesive plaster. The scrotum was suspended by means of a table of adhesive plaster four inches in width, placed across the thighs, the upper edge of the plaster

placed close up against the perineum (the adhesive suspensory must be applied while the legs are approximated or the suspensory will sink and not give support to the parts).

The following morning the patient was delighted to inform us that he had slept well, the pains in his back and head had disappeared and he urinated only twice during the night. On the seventh day after operation a suspensory* of the scrotum was applied and the patient allowed the liberties of the ward.

He asked for his discharge twenty-eight days after operation. The pains in his scrotum, back, and head, and the frequent micturition had entirely disappeared.

B, age thirty-four, varicocele left side. His complaints are dragging and weight in the left testicle and much aching in the lumbar region, aggravated by work, or by being on his feet, and relieved by lying down, mental depression, etc. The scrotum is greatly relaxed and the varicosis exceedingly marked.

Keyes' operation was chosen, three ligations made with heavy formaline catgut, and the scrotum dressed in the usual manner. Four or five days following operation there was quite marked swelling with induration, accompanied by considerable pain. Hot boracic acid stupes applied every four hours gave prompt relief.

Eight days after operation a suspensory of the scrotum was applied, and the patient allowed around the ward. Three weeks after admission he left the hospital with entire relief of his condition. There was some induration at the seat of operation, which is a favorable sign, as it shows complete obstruction of the diseased veins.

This induration will generally continue for several months, but will gradually become absorbed. The patient is directed to wear a suspensory bandage for a number of months, after which time he can dispense with it without further inconvenience.

C, varicocele left side. Open operation performed under anaesthesia. The pampiniform plexus of veins was separated from the vas and ligated at two points one and a half inches apart, with heavy formaline catgut. The stumps were approximated and the ends of the ligatures tied together, thus elevating the testicle and shortening the mass of spermatic veins. The wound, converted from a horizontal to a transverse direction, was united by interrupted sutures of black sterilized silk, and antiseptic dressings applied. A wide ribbon of adhesive plaster placed across the upper extremities of the thighs formed a table for the parts to rest on while the patient remained in bed.

On the seventh day the stitches were removed and the dressings renewed. The wound healed by primary union. Three days later the patient was given a suspensory bandage and permitted to get out of bed. Five days after he left the hospital, having suffered no pain and no inconvenience from his operation and had no complaints whatever to make.

PRIMARY TUBERCULAR ORCHITIS.

A, age thirty-three, primary tubercular orchitis. Ten years ago fell on a fence, injuring left testicle, which became inflamed, cystic, much enlarged and finally ruptured, a quantity of fluid escaping. Nine months later swelling and rupture occurred again. At the time of admission to the hospital manipulation showed cystic and nodular conditions in the testicle. The testicle was excised and tubercle bacilli found on microscopical examination of the removed testicle. On the second day following operation secondary hemorrhage occurred. The wound was opened and the blood clot evacuated. Infection, caused by falling plaster in the ward, resulted. Dressings of peroxide of hydrogen and bromine 1-500 soon destroyed the pus formation and balsam of peru stimulated prompt healing of the wound by granulation.

The patient was seen three months after operation and showed marked improvement in his general health.

Had not the primary tubercular foci been removed in the cases operated for this condition, they would, in all probability, die within two or three years of a resulting general tuberculosis.

STRICTURE OF THE PENDULOUS URETHRA AND CONTRACTED MEATUS.

A had gonorrhea three years ago. Complains of frequency of urination, dribbling after urinating and gleety discharges. Size of bulbous bougie admitted was 18 French. Meatus cut to 33 French and internal urethrotomy performed with Otis' urethrotome. Stricture cut to 33 French. Before operation the urethra was douched with saturated solution of boracic acid and injected with two drachms of cocaine, two per cent and carbolic acid one per cent. and retained for five minutes as a local anaesthetic.

After operation the lips of the meatus were sponged perfectly dry and sealed with collodion, to prevent hemorrhage and infection. Full sized meatotomy sounds were passed daily for one week and full-sized urethral sounds passed every third day for two weeks, then every fifth day for two months.

B, age thirty-four, has had an anterior stricture for over a year, and was treated by gradual dilatation method with no permanent relief.

He is troubled with frequency of urination and gleety discharges, the stream is small, branching, delayed, prolonged, lacks projectile force and is followed by burning sensations. Stricture admitted 15 French bulbous bougie. Meatotomy and internal urethrotomy soon corrected the condition and the patient left the hospital with instructions to have sounds passed at certain intervals as directed in the first cases.

HYDROCELE.

A, age forty-nine, hydrocele of right side of fourteen years' duration. Symptoms chiefly those caused by its size.

The hydrocele was aspirated under the influence of cocaine 4 per cent. and fifteen ounces of a yellowish milky colored fluid withdrawn.

The cavity was injected with sixty minims of 90 per cent. carbolic acid and 10 per cent. glycerine, and the part well manipulated to bring the solution in contact with the entire surface of the tunica vaginalis, in order to produce irritation and consequent adhesions, thus obliterating the cavity and preventing a recurrence of the hydrocele. The punctured point was sealed with a dressing of sterilized cotton and collodion. No swelling or pain followed the operation and the patient was discharged cured.

URETHRAL SINUS FOLLOWING EXTERNAL URETHROTOMY.

A, age fifty-three, has had specific urethritis several times; external urethrotomy performed one year ago. After two months the wound was not closed and curettement was resorted to. Within a few weeks the wound healed superficially and a month later opened again. It was again curretted, but refused to unite. Cystitis, with its harassing train of symptoms and constant leakage of urine through the sinus caused the patient much inconvenience and induced him to seek hospital care.

Treatment—The urethra was douched with a saturated solution of boracic acid, the eye of a catheter passed down to the sinus and a few drops of silver nitrate, 1-1000, injected. This was repeated daily. The bladder was also washed every day with a saturated solution of boracic acid. Five grains of boracic acid were given three times per day and the indicated remedy prescribed.

In two weeks the sinus was completely closed and the patient, who remained as a helper in the hospital, is in perfect condition at this writing, three months later.

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*The suspensory now used in the genito-urinary ward is applied as follows: The scrotum is grasped between the thumb and index finger by an assistant, the testicles pressed firmly up against the external abdominal ring and then straps of adhesive plaster, three-fourths of an inch wide and cut a little on the circle wound around the scrotal pouch, overlapping one another from below upward and sufficiently tight to keep the testicles elevated, but not to impede the circulation. The lower inch of the scrotum is left uncovered that the circulation may be properly watched.

This form of scrotal suspensory can be used to advantage in epididimo-orchitis, when properly applied and carefully watched, and the patient allowed to be up and with comfort attend to business during the most of his convalescence an frequently during the entire course of the disease.

Zonas flexine plaster, cut in one-inch strips, is easily applied and gives satisfactory results.

Johnson & Johnson have recently, at Dr. Carlton's suggestion, prepared for him. adhesive circular straps 12 inches in length which are convenient and save money and time.

HYPERTROPHIED PROSTATE.

A, age sixty-six, hypertrophied prostate, has suffered for a long time with incontinence of retention of urine, cytitis, etc. Daily use of the catheter was required. Digital examination per rectum revealed the presence of a tumor the size and shape of a lemon.

Alexander's operation was performed and the middle and lateral lobes removed.

The accompanying half-tone cut represents the exact size of the lobes removed.

Through and through drainage was established. A sterilized drainage tube was inserted into the bladder through the supra-pubic opening and sterilized dressings applied. The parts were irrigated with a saturated solution of boracic acid and the dressings renewed daily.

ANAESTHESIA.

It has been our custom to give two drachms of liquid peptonoids every hour to all cases requiring general anaesthesia, beginning the morning of the day of operation, and continuing four hours after anaesthesia, the same quantity every hour. Nothing else is allowed during the day of operation.

With this treatment we have had very little of the distressing nausea and retching which so frequently follows the use of general anaesthetics.

REPORT OF A CASE OF A PISTOL-SHOT WOUND OF THE DIAPHRAGM, LIVER AND STOMACH. OPERATION AND RECOVERY.*

By Irving S. Haynes, Ph.B., M.D.

E—. S—, twenty-two years, clerk, German.

Patient brought by ambulance to the Harlem Hospital 11 p.m., Dec. 23, 1897. Had been wounded by a thirty-two caliber pistol shot a short time before.

Examination.—Patient intoxicated; no vomiting; no pain. The bullet wound was about two inches to the left of the middle line and between the cartilages of the sixth and seventh ribs. Very little bleeding from it. Wound washed and an antiseptic pad applied.

During the night the patient vomited a small amount of bloody fluid.

Dec. 24, 11 a. m. He was taken to the operating room. After the usual preliminary preparations the abdominal cavity was opened by a median incision from the ensiform appendix to the umbilicus.

The diaphragm was found perforated at a point about three inches from the costal margin and to the left of the middle line. The bullet had passed through the left lobe of the liver obliquely, the lower opening being about one inch from its left extremity and the same distance from its posterior border. The next perforation was on the anterior wall of the stomach close to the base of the esophagus and just to its left side.

There was slight oozing from the wounds in the liver and stomach, and a small sized blood clot, but with very little escape of the stomach contents. The stomach was only about a third full.

The blood clots were cleaned out, the peritoneal surfaces sponged off and treated to irrigation with saline solution; the wound in the anterior wall of the stomach closed by two rows of continuous fine silk sutures.

The great omentum was now torn through close to the lower border of the greater curvature of the stomach and the hand carried into the lesser peritoneal cavity. After a little search the wound of emergence in the stomach was found covered and filled by a small blood clot.

The omental opening was carefully enlarged. The stomach was raised upward onto the costal margin as high as possible by the hands of an assistant. The sides of the wound retracted.

By doing our utmost in this way the perforation in the stomach was just brought into view. It was on the posterior face of the stomach close to its upper border at the attachment of the esophagus.

Light from a small mirror had to be used to render the wound visible and for inserting the sutures, which consisted of two rows of fine silk applied continuously.

There had been only a small amount of bleeding from the posterior hole and no solid particles of food had escaped. The opening itself was only a little larger than the anterior one, and was blocked up by the everted mucous membrane. Further search for the bullet was not made as there was no hemorrhage from the parts.

Two strips of iodoform gauze were used for drainage, as we had no suitable rubber tubing on hand, and I feared to close the wound as twelve hours without drainage had elapsed since the injury had been received.

One strip was placed between the liver and stomach and brought out at the upper angle of the median incision, the other introduced to the site of the posterior perforation and left at the lower angle of the incision. As the patient was showing the effects of shock the incision was rapidly sutured with silkworm gut passing through all the layers of the abdominal wall. This plan I do not approve, nor use as a rule, only in cases where haste must be made. It is owing to this hurried suturing and imperfect apposition of the peritoneum and the muscular aponeuroses that the ventral hernia, which now exists, is due.

At 2 p. m. vomited small amount bloody mucus. 9 p. m., T. 102.2; P. 132.

Nutritive enema begun every four hours. Morphine hypodermatically whenever necessary.

Dec. 26. Hot water by the mouth. 9 p. m., T. 100; P. 114.

Dec. 27. Large normal stool. Beef tea by mouth vomited. Nutrient enema retained.

Dec. 28. Retained peptonized milk.

Jan. 1, 1898. Nutrient enema discontinued. Bowels operating daily. Temperature fluctuating between 99 and 100, pulse from 96 to 114. During the next few days troubled with nausea at times. Dressings on wound changed every other day since the operation. Healing in incision slow. Sutures removed on the tenth day. Rubber straps used. Gauze drains firmly attached. Tongue has refused to clean off; covered by a very thick brownish white fur at sides, with a raw streak through center. Course uneventful up to 9th. Complained then of a good deal of pain in lower region of abdomen. Abdomen carefully examined and a swelling just above pubes noticed; flat on percussion. Tenesmus and difficulty in passing feces. Temperature only 101 toward night. Pulse running about 100. Prepared for operation.

Jan. 10. Small median incision just above symphysis pubis. Large pelvic abscess evacuated. It filled the entire pelvis, its upper wall being formed by adherent coils of intestines. A medium sized rubber drainage tube left in lower angle of wound. Incision carefully sutured by layers as far as drain. No nausea or vomiting after operation. Pain in abdomen ceased. From this time tongue began to clean quickly and a rapid convalescence took place. The drainage from the lower wound was removed on the ninth day and this closed without delay. The gauze drains were still in the upper wound. They were firmly adherent to the surrounding structures. Their removal was attempted at various times by twisting them, but without success.

Finally, on the 28th of January, chloroform was administered and they were removed by using a little manipulation, which I think may be interesting to the Section. The procedure was this: A dull uterine curette, with an eye of a diameter of about three-eighths of an inch, was threaded onto the twisted gauze drain and with a spiral motion the curette was gradually worked to the end of the gauze, freeing it from the firmly attached granulations. These sinuses, the upper one about five inches deep and

*Patient presented before the Surgical Section of the Academy of Medicine, April 11, 1898

the lower one seven inches deep, healed rapidly. The patient was discharged Feb. 7.

Present state: Is in good health and spirits. Functions of organs normal. No pain or discomfort, although there is left a ventral hernia at the site of the upper incision. The recti muscles are separated about two inches from each other. After a hearty meal the projection of the hernia, which is composed of the stomach, is most marked, but even then causes the patient no inconvenience. There is a small granulating area, one-fourth of an inch in diameter, in the center of the upper incision, where healing is delayed by the tension of the hernia. Rubber strapping will be used to relieve this tension. If there is a tendency for the hernia to increase an operation for its cure will be performed, but at present I wish to watch the course of this rather rare form of post-operative rupture.

Remarks: Gauze drain should not have been used in this case, or, if used, should have been wrapped in rubber tissue, as proposed by Dr. Morris. As we had no rubber tissue on hand at this time, nor suitable drainage tubing, I was forced to use the gauze. I might say that the operation would have been performed sooner except that when the house surgeon telephoned me regarding the injury I understood him to say that that the bullet had entered the left fifth intercostal space two inches from the middle line, and therefore I expected a speedy death.

As to the course of the pelvic abscess which developed in eighteen days so as to rise above the symphysis pubis, my first impression was that it had originated from the retained bullet still in the tissues of the back, and that the pus had gradually worked into the pelvis. At the time of the operation search was made for this supposed origin by the finger and by irrigation, but no sinus or pocket was found leading upward to the locality of the bullet.

Inasmuch as the abscess healed rapidly on the evacuation of its contents I conclude that its origin was due to a small amount of gravitated fluid from the stomach wounds before, during, or after the operation.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

The Elimination of Lime in Rachitis.—M. Rabot distinguishes three conditions of rachitis. Some subjects do not assimilate the lime, but void it in the urine without depositing it in the bony tissue. Others assimilate it, but excrete it also; the lime is not fixed by them in a stable manner. A third eliminates t normally.

Action of X-Rays upon the Blind.—M. Forean de Courmelles has experimented with the X-rays upon the blind. A certain number see the rays. This is M. de C.'s first communication, and he proposes to extend his investigations upon this subject and make further reports.

Cure of Myxedema by Thyroid Medication.—It is known that in myxedema the osseous tissue is arrested in its development; a child of fourteen years presented bones identical with those of one of five years. After five months of thyroid treatment M. Coutremoulin observed by means of the X-rays that the osseous tissue had become normal.

ACADEMY OF MEDICINE.

Senile Hypertrophy of the Prostate and Prostatomegalia.—M. Guepier: Prostatomegalia, a symptom, is usually confounded with hypertrophy, that is with the disease itself. Prostatic hypertrophy is voluminous, but many large prostates are not hypertrophied. So prostatomegalia accompanies prostatic congestion and edema, very frequent in old men; it is also met with in hypersecretion with glandular stagnation in chronic prostatics. The prostatomegalia of senile hypertrophy comes from these different causes. Therapeutic methods applicable to them yield very satisfactory results, both by regenerating the organ itself and aiding in the re-establishment of normal micturition.

Purulent Otitis of the Middle Ear.—M. Meniere made a communication upon the excellent results obtained in acute purulent otitis of the middle ear by the systematic employment from the beginning of copious washing of the cavity. Twice daily a current of boiled water, warm, was passed through the tube which traversed the middle ear, and escaped by the external meatus, thus avoiding all neighboring complications. Cure completed in a very short time, with cicatrization of the tympanum and restoration of hearing.

SOCIETY OF MEDICAL SCIENCES OF LYONS.

Elephantiasis of the Nose.—M. Comte presented a patient operated upon by M. Taboulay for elephantiasis of eight years' growth. The tumor was enormous, lobulated, and formed of many masses, one of them reaching to the right labial commissure. Operation performed by scissors. Nose nearly normal after operation.

Complete Ossification of the Choroid.—M. Grandclement on removing an eye that had been atrophied for a long time, had the opportunity of seeing an ossification of the choroid. The patient, aged thirty-five, was deeply wounded in the right eye at the age of two years by the point of a knife. He became perfectly blind in that eye, but suffered no pain until he was twenty-six years old. Since then he has experienced grave sympathetic phenomena, photophobia, and, eventually, intense pains. The enucleated eye showed complete ossification of the choroid and partially of the lens. This singular ossification was explained by the irritation from the old cicatrix upon the embryonic cells that the choroid holds in reserve, like all the tissues springing from the mesoderm.

SOCIETY OF SYPHILIGRAPHY AND DERMATOLOGY OF ST. PETERSBURG.

Syphilitic Reinfection.—Prof. Jarnovski met with six cases of syphilitic reinfection. In one case a man, an alcoholic, after taking syphilis and pursuing an active treatment by injections, at the end of three years presented a new syphilitic chancre upon the finger. In another case a man, whose mother, dead of general paralysis, was syphilitic, and he a heredosyphilitic, which did not prevent him from being reinfected. Cases of reinfection have become more general since the treatment of syphilis by mercurial injections, but conclusions should not be drawn against this treatment from that fact.

Rectal Carcinoma.—M. Csesch reports sixty-three of radical operations for rectal carcinoma, five colostomy, twenty-eight of inoperable carcinoma. Nine patients were aged from thirty to forty years, four twenty-seven years. Of the others two per cent. aged from forty to sixty years. Among them sixty-seven per cent. men and thirty-three per cent. women, and in half of the cases defecation was painful. The author prefers total extirpation, after the method of Mikulicz, partial resection of the coccyx and sacrum is less useful, and as to excochleation he rejects it absolutely.

Prominent Symptoms of Osteo-Malacia.—M. Rissmann: Before the appearance of certain modifications of the pelvis, which suggest the diagnosis of osteo-malacia, there are numerous phenomena which create suspicion of this disease. Chief among these symptoms are: (1) Sensibility of the long bones to pressure; (2) paresis of the muscles of the thigh, particularly the flexors and abductors, and the muscles of the pelvis. Special characteristic pains, sensation of weight of the long bones, pains in the waist, nocturnal pains in the bones, fibrillar trembling of the muscles. The knowledge of these initial phenomena is very important as it enables us to stop the course of the disease by an appropriate treatment, and prevents the development of the graver modifications of the skeleton. Treatment: (1) Every subject of osteo-malacia should be treated by phosphorus before everything else, independently of the contraction of the pelvis that may exist; (2) castration is indicated only at the second time in a more general operation, such as the Cesarian. Exceptionally, however, it may be tried when the treatment by phosphorus has yielded no results, which is rare, or when successive pregnancies have compromised the treatment by phosphorus and general medical treatment; (3) when there is a pregnancy, and the symptoms are grave, we should not hesitate to practise premature artificial delivery, even in the absence of all contractions of the pelvis; (4) when there is pelvic contraction, and the condition of the patient dangerous, the Cesarian operation, or that of Porro, or the total abdominal extirpation of the gravid uterus may become the operation of choice in place of premature delivery; (5) where there is no contraction castration can be usefully replaced by radical vaginal operation.

Cardiac Hypertrophy in Arterio-sclerosis and Renal Atrophy.—M. Hosenfeld: Arterio-sclerosis very rarely produces hypertrophy of the left ventricle, notably when there exists sclerosis of the splanchnic vessels. In cases of renal atrophy hypertrophy of the two ventricles is constantly found, and in the same degree. But when to the renal atrophy sclerosis of the splanchnic vessels is added, hypertrophy of the left ventricle becomes predominant. It is presumable that the circulatory and nutritive modifications resulting from renal atrophy force the labor of the heart and, hence, the equal hypertrophy of the two ventricles.

Diagnosis of Gastro-Intestinal Affections by Radiography.—MM. Boas and Levy Dorn: The efforts made heretofore to obtain knowledge of gastric diseases by means of radiography have yielded unsatisfactory results. The authors have conceived a method which facilitates considerably the radiographic examination of the gastro-intestinal tract. It consists in the use of a ball of gelatine filled with metallic bismuth and covered by a layer of celluloid. The weight of this capsule when filled is twelve grams. It is introduced into the stomach by means of an esophageal sound, and determines the position of the great curvature, the contraction of the pylorus and the cardia and the tonicity of the gastric and intestinal muscular coats.

Sciatic Neuritis, Sciatic Neuralgia and Hysteria.—M. Biro: It is necessary to distinguish inflammation of the sciatic nerve (neuritis) from sciatic neuralgia. In neuritis the reflex of the tendon of Achilles is always detective, while in neuralgia it is normal. In cases in which, depending entirely upon the absence of the tendinous reflex, the author has diagnosed neuritis, the ulterior progress of the disease has proved the correctness of the diagnosis, for he invariably observed modifications of electric excitability and muscular atrophy. Moreover, in sciatic neuralgia the painful points are more prominent, more clearly defined than in neuritis. This distinction is important from a prognostic and therapeutic point of view, for these two affections, so different from each other, are generally confounded under the designation of sciatica. The best argument for a differential diagnosis is the absence in neuritis and its presence in neuralgia of the reflex of the tendo Achilles. Again, it is necessary to be able to distinguish these two diseases from hysteria, and to decide whether this or that takes on the form of sciatic neuritis or neuralgia.

SOCIETY OF PHYSICIANS AND NATURALISTS AT BRAUN SCHWEIG.

The Dangers of Ritual Circumcision.—Prof. Pott of Halle.—Ritual circumcision, such as is constantly practised among Israelites, is an operation "de luxe." The real danger that the child runs, both during and after the operation, is not compensated by the problematical advantages which it procures. It is said that circumcision increases fecundity and prevents the impotence which occurs later, yet Christians are as prolific as the Israelites. It is also said that circumcision prevents, or at least diminishes the chances of venereal infection by syphilis and blennorrhagia. But every physician knows that venereal diseases are met with among the Israelites, and if they are less frequent it is rather due to the more patriarchal morals of Israelist families. It is also pretended that circumcision protects against balanon-posthitis, but the truth is that it only protects against the mild balano-posthitis resulting from retention of the preputial smegma when there are excoriations of the prepuce. This last form is, indeed, much more frequent in uncircumcised children than in Israelitish children. One thing is certain, that circumcision really protects against phymosis and paraphymosis, and all the affections associated with them, but these are greatly exaggerated, as are the diseases called "dental." It is said in effect that phymosis may produce epilepsy, onanism, hysteria, incontinence of urine, which Prof. Pott does not believe at all. On the other hand, the dangers of the operation are real and numerous, especially practised as it is by "operators" who have neither instruction nor special preparation. As a hemostatic, suction is employed. The operator takes the gland in his mouth and effects suction. The wound is then powdered with various strange substances—antisepsis and asepsis of the hands of the operator, of the instruments and of the region are generally unknown, and the resulting accidents are multiple. Hemorrhages occur from the first that are often difficult to control, and which are sometimes fatal. It is known that in the early days of their lives newly-born children are subject to hemorrhages to what is called "the transitory hemophilia" of infants. There is often, too, an infection of the preputial wound, and notably cases occur of tetanus, erysipelas, phlegmon and gangrene supervening upon circumcision. Epstein observed a septic endocarditis that followed fifteen days after the ritual operation, and the author the case of a child that died of septicemia five days after. Even when modern operators employ antiseptics, mortal accidents sometimes occur, because they use very violent antiseptics, such as sublimate, iodoform, phenic acid, etc., to which the infantile organism is very sensitive. Thus Bagelanic and Meltzer cite two cases of death supervening upon the treatment of a preputual wound with a phenic solution of 5 per cent. As regards suction, it is evident that it is eminently dangerous as well to the child as to the operator when one or the other is affected with syphilis, buccal affections, etc., and what is true of syphilis is no less so of tuberculosis. Such transmission has been observed by Eisenberg and Karewski. Prof. Pott concludes that circumcision should be confided only to physicians, or at least to persons who, after special study, should have the right to practice this operation, and who therefore would be responsible. Post-operative suction should be equally prohibited.

OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Gynecological Examination of Women Recently Delivered.—M. Doleris. It is not unusual to see in asylums for the convalescent, where women are received after delivery cases of infection more or less grave in character which makes it necessary that they should be examined carefully before permitting them to leave the maternity. The examination should be made by palpation and touching combined, which, though useful, are insufficient. A Sims valve should be introduced into the vagina to examine the cervix and the fluids that escape from it, and the uterine cavity should be explored with a hyterometer, or, better, a dilating sound. The uterine secretions should be investigated bacteriologically, and an appropriate treatment used according to the case, with intra-uterine flushing and drainage, with iodoform gauze. The general treatment should not be neglected, and injections of ergotine and artificial serum will be found useful.

New Abortive Treatment of Erysipelas.—M. Lobit of Biarritz, proposes the above, which, he says, has given excellent results in twenty-five cases of facial erysipelas and numerous cases of lymphangitis. The cure was absolute in three or four days at the farthest. The treatment consists in applying a thick layer of iodoform oriodated collodion, 1-10, to the whole erysipelatous surface. Don't hesitate to shave the hairy scalp in grave cases, at any rate in men. The patient experiences immediate relief, and the morbid evolution is at once renderd more benign and more rapid. The good effects obtained are doubtless due first, to a direct antiseptic action, the remedy being quickly absorbed, for the iodine is found in the urine; second, to a mechanical action of constriction.

MEDICAL SOCIETY OF THE HOSPITALS.

Apropos of Tamponing with Gelatinized Serum.—M. Dalche has frequently employed in cases of metrorrhagia, gelatinized serum recommended by M. P. Carnot as a hemostatic, and upon which M. Siredey has recently insisted and from which he has obtained excellent results. But in cases of hemorrhage from the fundus of the uterus the effects are not so satisfactory when it occurs from the cervix. This hemostatic agent succeeds well. M. D. reports a case of a woman of seventy-two years with an abundant and dangerous metrorrhagia continuing for eight days. All other remedies having failed, the serum was employed, and as cancer of the body of the uterus seemed the most probable diagnosis, dilatation of the uterine cavity, in order to apply a hemostatic agent to the fundus, was contra-indicated, and only a tampon of gauze soaked in a gelatinized phenic solution was applied to the cervix. The metrorrhagia was immediately arrested, but soon the patient felt lumbar and pelvic pains, and on examination the orifice was found to be dilated and filled with a hard mass resembling a polypus, with a fetid odor of the uterine secretions; no fever. The mass was not a polypus, as was at first supposed, but a large clot, hard

and as large as an egg, and sufficiently compact to dilate the sclerous cervix of an old woman. M. Dalche did not remember to have observed a similar result following simple tamponing in cases of uterine hemorrhage. Intra-uterine clots which form under these conditions are usually small and incapable of causing such troubles as occurred, and hence the hemostatic agent employed must have produced the complication observed.

THERAPEUTIC SOCIETY.

Treatment of Psoriasis and Eczema by Scarifications.—M. L. Jacquet: In psoriasis this method is only applicable to limited lesions that are particularly objectionable because of their location; the hands and face, and in women the neck and upper dorsal region, equally applicable to eczema. M. Jacquet has treated eleven cases without regard to variety, but of relative limitation, and that had resisted other treatment. The statistics as follows: First, Three cases of lichenoid eczema on dorsum of the feet, hands and forearm. Second, Old and bilateral eczema of pre-auricular region. Third, Two chronic eczema of the fingers. Fourth. Three eczema of face in adult. Fifth, Four eczema of face in child. Following is M. Jacquet's method: First, Permanent application, more or less prolonged, of cataplasms of the potato, cold and often renewed, not covered with gum taffeta, and prepared without any antiseptic addition whatever; cataplasm to be removed for operation. Second, Scarification with very sharp instrument along parallel lines, involving the superficial layer of the derma. Third, Dressing with moist compresses, potato cataplasm to be renewed and continued to next operation three or four days later, a delay sufficient for the disappearance of preceding. Thus, the scarifications are not painful and easily borne; children bear them well.

NATIONAL SOCIETY OF MEDICINE OF LYONS.

Passage of Substances from the Fetus to the Mother.—MM. Lannois and Brian: From experiments undertaken by the authors to demonstrate whether substances injected into the fetus in utero can traverse the placenta and penetrate the maternal organism, it results that, first, substances directly injected into the fetus, viz.: salicylate of soda, methylene blue, iodide of potassium, do traverse the placenta, and are found in the maternal tissues and urine. Second, This is an argument in favor of the opinion that the normal excrementitious products of the fetus traverse the placenta to be eliminated by the maternal organism. Third, In cases of renal insufficiency the products of decay of fetal life contribute in part to maternal auto-intoxication and consequently to eclampsia and other accidents of puerperal albuminuria.

MEDICAL SOCIETY OF MAGDEBOURG.

Relations between Hypertrophy of the Nasal Cavities and the Upper Air Passages.—M. Saenger: The nasal mucous membrane protects the respiratory passages against dust and the thermal oscillations of the exterior air, and this protection is enfeebled or completely destroyed by dilatation of these cavities. The membrane becomes anemic, and dry, and the exterior air does not come in contact with it. Solid particles and dust are no longer retained, and the nasal membrane cannot exercise its bactericidal action, an action which has been demonstrated. Persons with an abnormal dilatation of the nasal cavity are nearly always affected with catarrhal troubles of the upper air passages. This hypertrophy is much more frequent than is generally supposed. Of 261 children examined 63 were found so affected, and of adults 3 per cent. had hypertrophy of the nasal cavity.

MEDICAL SOCIETY OF ST. PETERSBURG.

New Treatment of Ulcero-Membranous Stomatitis.—M. Kyssele: In grave and rebellious cases it is necessary to employ a treatment that will rapidly arrest the propagation of stomatitis which may produce profound and irreparable troubles in the buccal region. Unfortunately the numerous remedies employed are of slow action, and only effective after long use. I have obtained from the following treatment very good results, and in a very short time. Begin with extracting all carious teeth, curette the ulceration of the gums, the tongue, and the buccal mucous membrane. Pass the finger, enveloped in iodoform gauze, over the whole of the surfaces. Twice daily introduce very carefully into the mouth pledgets or balls of lint soaked in a solution of boric acid, and gargle with borated water. The iodoform frictions should be repeated until the ulcers are completely cleansed of suppurative products, and until a new tissue of granulation appears. I have applied this treatment in nine cases; in two the stomatitis was of a very grave character. From four to ten days only were required to complete it, while the usual method took from twenty to twenty-five. The treatment is somewhat painful, but with care and gentleness the iodoform frictions are easily borne; the curettage may be dispensed with in slight cases. It is only in grave cases in which the stomatitis produces other troubles, with extensive destruction of the soft parts, and serious effects upon the general condition of the patient, that this treatment should be employed early. The improvement will be observed the next day.

MEDICAL SOCIETY OF GREIFSWALD.

Soil and Dental Caries.—M. C. Rose declares that the structure and even the color of the teeth depend upon the richness of soil in lime. He pretends to be able, by a simple inspection of the teeth of an individual, to determine the more or less calcareous nature of the region in which he lives. A Swedish dentist, M. Forberg, has gathered statistics interesting to all Sweden, a country inhabited by one and the same race, which show that dental caries is more or less frequent according to the amount of the salts of lime contained in the drinking water. The more calcareous the water and the richer the soil in lime and magnesia, the more healthy are the teeth of the inhabitants, while the opposite conditions are equally true, and the more frequent the cases of dental caries.—*Munchener Med. Wochenschrift.*

Narcolepsy Cured by Suggestion.—M. Vischpolski reported the following case: A woman, aged twenty-five years, fell into a profound sleep in the third month of her pregnancy. She had no nervous troubles, and was pregnant for the third time. From this period every month, for eighteen consecutive months, she fell into a sleep that lasted from six to ten days, during which she completely lost consciousness, recollected nothing, nor the time that had elapsed since she fell asleep, and there was great difficulty in giving her nourishment while it lasted. In the intervals of the narcolepsy she was apathetic, and had become very anemic. This condition completely disappeared after a few applications of suggestion, and while she was half asleep. There was no trace of hysteria, and in the opinion of M. V. the nacrolepsy was a particular form of neurosis, which was independent of hysteria and of other forms of neurosis.

Treatment of Puerperal Infections by Artificial Leucocytosis.—Leucocytosis has, as is well known, a bactericidal action and according to certain authors (Metchnikoff) will contend alone in the struggle of the organism against microbic invasion. Hence Dr. Hofbauer conceived the idea of combating puerperal fever, and puerperal infections generally, by provoking artificially an intense leucocytosis in the organism of parturient women. With this view he employed nucleine, which possesses, in a very high degree, the property of stimulating the formation and propagation of leucocytes. He administered the nucleine to seven patients affected with different forms of puerperal infection. The results were very satisfactory, the general condition was improved, local lesions of the genital organs were rapidly ameliorated, and completely changed their aspect, sometimes in the course of a few hours, from septic, as they had been, to purulent, with the speedy return of the normal temperature.

MEDICAL SOCIETY OF BERLIN.

Organo-Therapy in Certain Dermatoses—M. Landau encouraged by the favorable results obtained in certain cases by organo-therapy, and notably by the thyroid treatment of psoriasis, has tried it in the dermatosis that accompany the menopause. He has treated with the extract of ovaries acne rosacea eczema, cornedones, alopecia, and chlorosis consecutive upon the menopause. The results obtained were very satisfactory, and induced him to continue his applications in this direction.

MEDICAL SOCIETY OF HALLE.

On Tubal Pregnancy.—Prof. Fehling has observed during three years and a half eighty cases of tubal pregnancy. The increase in the frequency of these cases may be attributed to the great number of surgical interventions that are now practised upon the uterus. Until re-

cently rupture was considered to be the most frequent termination. Now we know that tubal pregnancy may go on to term—thirty-one in forty-three operated upon. Hemorrhages do not come from the tubes, but from endometritis, which is very frequent in tubal pregnancy. Hematocele is more frequent than hematoma, and diagnosis never goes beyond probability. As regards prognosis and treatment, they differ accordingly as there is an interrupted pregnancy, rupture, or abortion. In the two first cases operate as soon as possible. The Cesarian operation is preferable to the vaginal.

Diseases of the Nervous System in Blennorrhagia.—M. Kzhane: If we consider the extreme frequency of blennorrhagia, the nervous affections consequent upon it rarely occur, the pathogenesis of these complications is not yet clearly determined, and the future will inform us if they are due to the gonococcus itself, to its toxines or to secondary infections. The existence of gonococcic diseases of the nervous system is not only possible, but probable, if we take into account the fact that the gonococcus may produce a general infection of the organism, which should be called gonococcic pyemia. The theory of gonococcic septicemia is based upon the discovery of Wertheim, which shows that the gonococcus is not always a simple parasite of the mucous surfaces. This micro-organism can penetrate the conjunctive submucous tissues, can determine purulent and serous inflammations, can perforate the blood vessels and there produce gonococcic thrombo-phlebitis. This last fact is of great importance in the theory of gonococcic septicemia. The nervous maladies observed in blennorrhagia have nothing characteristic in their symptoms nor their evolution. They, however, may be ascribed to blennorrhagia when, on the one hand, their existence is manifest, and, on the other, every other cause of nervous lesion is absent.

CORRESPONDENCE.

BERMUDA LETTER.

Editors MEDICAL TIMES.

So much has been written about the climate and attractions of Bermuda, it would seem useless to attempt to add anything to it, nor should I think of doing so, were it not that the subject has been treated somewhat unfairly. Steamship companies and others interested in inducing as many as possible to visit the islands naturally draw the most highly colored pictures, and for that matter the visitors themselves, even though they may not have found everything just as their fancy had pictured, are inclined, after returning home and comparing the climate of Bermuda with their own, to lose sight of whatever disturbing elements may have been met with, and to praise without stint the group of islands to which so many Americans resort to escape the rigors of our Northern winter. I spent three months there, from the middle of December to the middle of March, and have little to say except in praise, and no harm can come from saying that little, because, of a truth, Bermuda is in most respects so charming that the truth plainly spoken need deter no one from going there who wishes to escape the noise, confusion and worry of the outer world. Bermuda is indeed very unlike the world we have been accustomed to; no trolley cars, no cable cars, no cars of any kind. No five minute lunch counters, no throngs of eager, anxious men, no crowds of impatient women scrambling for the bargain counter. No harsh voiced venders, no insistent newsboys, but quiet, easy-going life, with scarcely any disturbing elements. As an indication of how life is viewed by the Bermudians, take the remark of one of them when I said that my watch was apparently four minutes fast. "Oh, that's near enough for Bermuda; it makes no difference here whether you are four or five minutes fast or slow." How delightful to find a place where everything is not done on the stroke of the clock, and where it is almost enough to know that it is *daytime*. The first view of Bermuda is somewhat disappointing, owing to the lack of tropical vegetation which one has been expecting to see. The islands are covered with cedars, not unlike those we are accustomed to at the North, and these I believe, are the only indigenous trees. Many others, of tropical origin, have been imported, and grow abundantly in some parts of the islands. Cocoanut, date, and other species of palm grow readily, and near the city of Hamilton is a group of royal palms, very beautiful and graceful trees, to which the attention of the visitor is particularly called. Banana trees are very numerous, and though not beautiful to look at, are prolific, the fruit, both plentiful and of good quality, being considered by the Bermudians superior to that brought from the West Indies. With this opinion, however, I cannot quite agree. The rubber tree flourishes to a considerable extent, and grows to a size that would certainly astonish those who have only seen the plant as cultivated in pots. There are trees of considerable size bearing bright red flowers, others with purple and yellow blossoms, and roses of almost every variety are in bloom throughout the winter. They are no more beautiful than those that grow in our own climate, but the charm lies in finding them in December and January. Small fruits are not abundant, though strawberries ripen in the open field in mid-winter. There are no springs or streams on the island, so that the only fresh water for drinking and other purposes comes from the clouds, but as it rains a good part of the time, there is seldom any lack of water. It is collected in large tanks built of coral rock, and is by no means unpleasant either in taste or appearance, and seems to be quite wholesome. A very noticeable feature of Bermudian scenery is the beautiful color of the ocean, which must be seen to be appreciated. No description can do it justice. The varying colors, from deepest blue amethyst and turquoise to the brightest emerald green make a picture that never fails to call forth exclamations of wonder and delight. I tried to determine to what these beautiful colors were due, but was unable to come to any satisfactory conclusion. The exceeding clearness of the water no doubt has a great deal to do with it, and the bottom of light coral, but there are other conditions, I am sure, contributing to the color, though I cannot state what they are. The ocean views on the south shore are most magnificent; grandeur and beauty being combined as is no other part of the world. The roads are for the most part good, and the drives, considering the limited extent of the island, are numerous and very charming. As Bermuda is an important English naval station, a goodly number of ships is generally present, and there is also a garrison of some 1,500 troops. The main garrison at Prospect, delightfully situated, is one of the sights of the place, and the service at the chapel where the redcoats gather on Sundays, for worship, is certainly interesting. The men sing and respond with much earnestness, but it makes one smile to hear a congregation of men whose business it is to do battle ask the good Lord to deliver them from battle, murder, and sudden death. No doubt they would fight well should the occasion arise, but let the occasion be put off as long as possible. The winter climate, as far as temperature is concerned, is all that could be desired. It is neither hot nor cold, the thermometer registering from 60 to 72 degrees. The only drawbacks, and these constitute the one fault I have to find, are the cloudy days and the prevalence of high winds. It is disappointing to have the sky obscure day after day, because when clear the prospect is calculated to fill the beholder with joyous delight. But the clouds, even though they sometimes tend to lessen the charm, by no means destroy it, for the air is soft and balmy without being enervating, and the water coloring is often as fine under a dark sky as under a bright one. There is a sedative influence in the air which makes it especially beneficial in nervous cases. It is not good for consumptives, nor for very weakly persons, but those who are worn out by hard work, whose nerves have been weakened by constant and prolonged tension, can hardly fail to find benefit from a sojourn in Bermuda. To such, it offers not only health, but joy and recreation. Of the Bermudians themselves, it would be only fair to speak well. They are, as a rule, exceedingly kind and hospitable, and with their soft voices and simplicity of manner, accord well with the genial influences with which nature surrounds them. The journey from New York, of forty-eight hours, I found by no means unpleasant, the experience of many to the contrary notwithstanding. The service of the Quebec Steamship Company is excellent, their best steamer, the Trinidad, comparing favorably in all respects, except perhaps in size, with the transatlantic liners. The state-rooms are commodious, the table good, and the general discipline all that could be asked. The two principal hotels, the Hamilton and the Princess, are both excellent in every respect, but my preference is for the Princess, on account of its delightful situation, overlooking the great sound. For those

who expect to stay several weeks in Bermuda, however, there are many boarding houses within two or three miles of Hamilton, which offer excellent accommodations at very reasonable rates. Winds may blow, and clouds obscure the sun, but nevertheless, Bermuda is a charming spot, as I am sure all will agree who have ever had the good fortune to spend any length of time on its balmy shores.

GEORGE B. DURRIE, M.D.

PHILADELPHIA LETTER.

PRECAUTION AGAINST YELLOW FEVER IN CUBA DURING WAR.—Dr. John Guiteras, the recognized authority of this disease in the United States recently gave out publicly the following interview: "At the present time there is not the slightest danger to be apprehended from yellow fever in Cuba. The island is usually free from the disease till the middle of June or later. Then the yellow fever season sets in and continues until the last of October. It is at its worst during the months of August, September and October. There has been a lot of discussion concerning the prevention of the disease by individual precautions. These measures of prevention for individual cases are worthless. The disease ought not to be treated from the standpoint of the individual, but from the standpoint of the mass. The most important measure to be taken to prevent the spread of yellow fever in the invading army would be general measures affecting the distribution of troops, the manner and place of landing, the creation of distributing centers of supplies and the selection of sites for the establishment of camps. In fact there is nothing to prevent yellow fever except keeping the men out of the foci of infection, and this can be done by the general measures above mentioned.

"Outside of the yellow fever in the seaport towns of Cuba we may consider the climate as a salubrious one. Malarial fevers and dysentery are not more prevalent there than they were in the civil war.

"A very important factor in the protection of our troops lies in the shipping of all our supplies directly from the United States. Havana and the seaport cities in Cuba are really the danger spots of the disease. The interior of the island is free from yellow fever. Havana is always infected and it will take several years to remove the effects of bad sanitation in that city. Spanish troopers quartered there carry the disease wherever they go."

SMALLPOX IN PHILADELPHIA AND ELSEWHERE.—It has been learned after careful examination that smallpox, which had its origin in Cuba, was from there introduced into Florida last year. From the latter point the disease extended west and is now on its way North. Notices to this effect have been sent out to all the local boards by the Boards of Health of Pennsylvania to be on the alert and prepare for the invader by proper precautionary measures, to wit: vaccination.

It is thought by the board that the disease might gain foothold in Philadelphia on account of its close connections with infected ports. But cases recently developed in the city under peculiar conditions, the only means of conveyance being, as was thought, through the medium of cotton shipped in bales from points in the South which had the disease. It is now thought the second case contracted the disease while nursing his brother.

The disease after reaching Florida, where there were thirteen cases in January of last year, finally extended to Alabama, where quite an epidemic occurred, especially in the town of Haynesville, there being 400 cases reported from that point alone. Up to date 1,161 cases have occurred throughout the state. Traveling north Tennessee was invaded (in January, 1898); then Georgia reported 374 cases; South Carolina (33 cases), North Carolina (9 cases), Middlesborough, Kentucky (176 cases), Virginia (5 cases), West Virginia during February of the present year (5 cases) Ohio (7 cases.) From this it will be seen that the disease has been traced to the proper channel and that is the ignorant Spanish, at present on the Island of Cuba.

GOVERNOR HASTINGS CONFERS AN HONOR UPON DR. WILLIAM PEPPER, OF PHILADELPHIA.—Those who volunteer for Government service in the State of Pennsylvania will be required to pass a rigid physical examination before they will be received. Through orders issued by the Adjutant General a medical board has been created by the appointment of an army surgeon and two civilian physicians to conduct the examinations.

This honor has been bestowed upon Dr. William Pepper, of Philadelphia, and Dr. W. S. Foster, Pittsburg.

BEQUEST FOR PREVENTIVE MEDICINE.—The will of the late Dr. Oliver A. Judson was admitted for probate a short time ago and in the following bequest of $1,000 was made to the College of Physicians of Philadelphia. "As often as the interest on the same shall amount to $100 the same is to be offered as a prize for the best original essay on 'The Practical Prevention of Disease' and to be known as the 'Oliver A. Judson Prize,' and need not be awarded if no essay merits it."

PENNSYLVANIA AFTER HER DAIRYMEN.—It will be remembered that according to the examination of the milk from different sources in Philadelphia and other cities the milk on the whole conformed with the legal requirements. However, certain dairymen have been tampering with this valuable product and have paid into the state treasury through imposition of fines, the sums of $1,094.

DR. JOHN GUITERAS SUMMONED TO TAMPA, FLORIDA.—Dr. John Guiteras, whose qualifications as an expert in yellow fever are well known, has been summoned to Tampa, Florida, by the Government, where he goes to render aid in instructing the Government troops regarding the nature of tropical diseases, as well as the precautionary measures to be carried out as a preventive while on the Island of Cuba.

He is peculiarly fitted for this position, being a native of that country, and being a member of the Cuban Junta is in constant touch with leaders on that unhappy island.

E. A. W.

PHYLOGENETIC PATHOLOGY OF THE HUMAN CECO-APPENDIX.

To the Editors of THE MEDICAL TIMES:

In an able and suggestive article by Dr. Woods Hutchinson (*N. Y. Med. Journal*, Sept. 17, 1897), on Diseases of the Alimentary Canal in the Light of Its Ancestry and Development—in which the evolution of the human food-tube is traced through all its stages—I find the following statements relative to the intestinal region whose pathologic processes are just now exciting most attention (italics are mine). At this point (the ceco-appendix), as Dr. Hutchinson remarks, the connection between structure and function seems of all the least apparent. "Here, however, the value of the comparative or ancestral method is evident and a comparison of the human state of affairs with the various developments of this region in other mammals sets the problem well on towards solution. In different species the development of this organ, the appendix, varies enormously. Though in its degenerate human form it seems to exist merely as a business opening for the abdominal surgeon, its great length and character in some marsupials and herbivorous rodents, equaling that of the bowel proper, evidently serves an important part in digestive and absorptive processes. It seems that the carnivorous cecum is an extremely reduced form of an earlier type. Viewed in the light of embryologic growth, the same retrogression is observable. At its earliest appearance in fetal life the cecum is a well-formed tubular prolongation from the gut, relatively three times the length in the adult, and of equal caliber with the intestines. With growth its evolution quickly changes—till, as Ribbert and others have shown, the canal of the process becomes either partly or wholly closed in about 25 per cent. of cases before the thirty-fifth year, while in 60 per cent. of those examined at, or over, seventy years of age, the same condition is discovered The shorter and smaller the appendix the larger is found to be the percentage of occlusion. *The obvious conclusions from these considerations is that the human ceco-appendix is a degenerate organ, both ancestrally and in the life-time of its possessor*, and, like other vestigial structures, is among the points of least resistance in the food-tube, and a frequent starting-point of morbid processes. Such is, in fact, its medical and surgical history, nor is it necessary nowadays to invoke the aid of foreign bodies to explain the frequency of disease processes in this organ. Among cattle and other mammals on the other hand, in which this organ has a full development and vigorous nutrition, such disorders are almost unknown, while in sub-human animals, whose intestinal conformation most nearly resembles that of man, inflammatory diseases of this region are commonly encountered. *From the foregoing facts we conclude that, in man especially those obsoles-*

cent structures, of which so many still remain as a prehuman inheritance, are in his present state but inevitable evils from which many future ages will be needed to emancipate him.

"Lastly, in keeping with this theory, the prevalent sites of cancerous diseases of the alimentary tract merit attention. The ileo-cecal region is reputed by Osler to be the third commonest site of cancer of the food tube. Another suggestive fact is the liability of the cecal region to ulcerative processes. The susceptibility of the cecum to the perforating ulcers of typhoid (80 per cent. of all cases being found within ten inches of the ileo-cecal valve), strongly suggests the causal relation between biologic instability and susceptibility to morbid change."

Biologic science, therefore, furnishes no confirmation of Dr. Terry's belief that the vermiform appendix must have been left where it is by the Creator for some beneficent purpose. On the contrary (if Dr. Hutchinson's exposition be correct), it clearly tends to show that the Creator's ultimate design is best carried out, in the majority of cases, at least, by "the knife of the surgeon." "Evolution," your correspondent kindly concedes, "is all right," —and evolution completely refutes his teleologic argument.

This, of course, has nothing to do with the *clinical* aspect of the question. GEO. LOYD FREEMAN.

LINCOLN BUILDING, 1 and 13 Union Square.

Editors of MEDICAL TIMES.

In the May number of your journal I read a notice in regard to the work of the Spanish Red Cross Society in Havana, Cuba. As delegate of the International Red Cross Society in the United States I shipped at the beginning of the war medicines and disinfectants to the Red Cross Society in Havana, Matanzas, Cardenas, Cienfuegos and Santiago, given to me by manufacturers without charge. The delegates in these cities had to pay duties because the income of their houses was mortgaged to the French banks for money lent to the Spanish government. According to reports from the patriots and physicians on the Island, the Spanish officers and soldiers paid no attention to the Red Cross Hospitals of the Cubans, and killed nurses, sick and wounded they found inside. If this is truth, we who belong to such humanitarian societies must say what the celebrated French poet, Victor Hugo, said: "Africa begins in the Pyrinees," and the Spanish Red Cross Society ought not to exist in the world. From letters received from Havana and other cities visited by Miss Clara Barton, she honored the Society of which she is President by her good deeds and charitable work. When Cuba is free and independent her picture will be placed in the Governor's palace. Very respectfully,

DR. LUIS DE ABRISQUETA.

Editors of THE MEDICAL TIMES:

Thanks for your kind approval of my venture to reply to Dr. Ashmead. It is a notorious condition in our climate that a wet summer and dry fall is prolific of intestinal disorders, and malaria is one of those disorders. Now given the usual predisposition of hot damp climates, the heat prolonged for eight months, and add the stimulus of lack of plenty of water to keep the sloughs and shallow creeks washed out, and it is only reasonable that the effects should be intensified. Now add to this an epidemic purely intestinal, such as yellow fever or cholera, and why should not the ordinary malarial attack become almost malignant? I have for forty odd years noted this, and really at times, it did not need the epidemic to make wild work for the doctor. It is at such times that quinine lost its good effects and the bad seemed to be intensified that led me to hunt around for some other means by which to treat the trouble. For thirty years every year I tried this and that formula, only to find I had to go back and commence over again.

I have no blood in me for the kid who will jump up and crack his heels together and squeal out, "Quinine will cure malaria!" for I *know he lies.* It won't do it. It will cure some cases. It helps in small doses. But when you try to poke thirty to sixty grains by hypodermic into the people about here, you are going to call in the coffin maker every time. I've tried it in large and small dose, and have quit it. It won't work every time *here.*

Respecting the wiping away of sectarian designations, I'm hand and glove with you. I recently cut from *Medical Progress* a resolution which I am going to send to our State Medical Association, which meets in New Orleans 10th, 11th, 12th of this month, with request to have it read and acted on. I believe our doctors are a liberal set of men, and if nothing else it will set them to talking and thinking.

You know very well my own ideas. I have a friend, a doctor, who recently moved to our State. Prior to his coming he wrote me several letters of inquiry, among others "Have you room for an eclectic?" I wrote to him: "The people won't ask you what you are, nor your politics, nor your religion, nor what medicine you give them. If you cure them they are your friends and will swear by you and call you doctor." Well, he came and settled in our swamp section and is a success, but not a soul knows that he is a Bio-chemic M.D. except himself and me. More than that he is a full member of our Parish Medical Society and well liked by everybody. His sugar powders please the people who do not like "*nasty* drugs" and he has won his way to a $4,000 practice first year. See? So much for "non-sectarian designations." Had he splurged about as an "eclectic" the whole medical fraternity would have been down on him and it would have worked against him among his people. Yet he uses *strictly Schussler's tissue remedies,* but *no quinine.*

Well, you are busy—good-by for the present; many kind wishes. Yours as ever, BEN. H. BRODNAX.

Brodnax, La., May 2, 1898.

The report of the Hahnemann Hospital for 1897 is before us. Hospital reports ordinarily are dry reading and yet they might often be made the source of very useful instruction if you would only give them careful consideration. The treasurer's report fails to show that anything has been received from paying patients—as it also fails to show the expense of caring for the patients, but further on in the volume is a report that is made by the treasurer of the Ladies' Hahnemann Hospital Association covering these grounds, and one is led to infer thereby that the real management of the hospital is in a great measure, if not entirely, given over by the trustees to the ladies of this association.

The trustees' treasurer's report does show, however, that $8,050.30 were expended in Hospital maintenance proper.

The hospital may be considered financially healthy, if one can judge from the fact that its free bed fund holds mortgages to the extent of $103,453.58.

Dr. Thompson writes an interesting report as secretary of the Medical Board, showing the growing prosperity of the hospital: 906 patients were treated during the year; 479 surgical operations were performed. The death rate reached the phenominally low point of 2.5 per cent. This is attributed to the fact that the treatment of the physicians and surgeons of the Board is in accordance with the rules laid down by Samuel Hahnemann.

Looking forward to the report of the resident physician, we find that of the 906 cases treated, 587 were surgical and 278 medical, while 41 were maternity cases. On page 31 is a table giving the causes of death in 20 cases. This does not correspond with the tables preceding and seems defective; for instance, cirrhosis of the liver appears twice in the table—under the first appearance one death is noted, under the second two, three deaths from cirrhosis of liver. Comparing page 21 we find there were but two cases treated, one of which was improved. So we will leave this table of the causes of death out of consideration and rely on the itemized statements preceding. The maternity ward show no deaths. The medical mortality is 12 in 278 cases, or 4.32 per cent. The surgical mortality is 7 in 578 cases, or 1.19 per cent. It would seem that a treatment of cases in accordance with the rules laid down by Samuel Hahnemann were more helpful in amputations and hysterectomies than in scarlet fever and disease of the liver. Of the 43 cases admitted to the maternity wards, 18 paid in full and 8 in part for their attendance; 17 cases were free.

The interesting report of the lady treasurer shows that $14,455.89 was received for pay patients, and $100 for the board of a child, $14,555.89; and the expense of running the hospital was $18,531.76. The endowments made up nearly all the balance, $727, or was received in the nature of gratuities. The $339.69 received by the trustees from the Hospital Saturday and Sunday Association not apparing in this report. There is some apparent slight discrepancy between the two treasurers' reports, and the in-

quirer is somewhat troubled to ascertain the real cost of treating those 906 cases, but it would seem to be about $26,500, or of which the pay patients contributed considerably over half. It is impossible to tell from this interesting report the cost per day per patient.

This hospital is a practical illustration of the fact that state and city aid is not requisite to success. Those who conduct it have accomplished much good work. It is a first class advertisement of the capabilities of its managers and a legitimate one inasmuch as they do not appear as clamorees for assistance in charitable work. We think, however, the name of the institution somewhat misleading as its principal field of usefulness seems to be so far from Hahnemannism that Dr. Thompson's reference to the precepts of homeopathy must be taken as a pleasantry. *

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

The Curative Power of Fever—A. Lowey and P. F. Richter (the *Canada Lancet* says) energetically defend a view now held by a large number of clinicians, that fever in acute infectious diseases is one of the weapons of defense possessed by the animal body. In proof of this they detail a series of experiments on rabbits, consisting in the production of high temperature by the "Heat-Puncture," *i. e.*, by injury to the corpus striatum and subsequent inoculation of the animals with the minimal lethal dose or its multiple of pneumococcus, hog cholera (Schweinerothlauf), and diphtheria. The results showed that the animals in which fever had been artificially produced lived longer than the controls; some, indeed, survived the infection.

Although indicating the curative power of fever, the authors do not oppose the proper use of the antipyretic measures, when these have favorable incidental effects (quieting the nervous system, etc.). But, they add, it may be profitable to search for pyretic agents—*i. e.*, such as evoke an artificial rise of temperature.

Injection Treatment of Hernia.—The method of procedure is so simple that any one can, with ordinary care, do the operation without trouble, says Feid, in the *Cincinnati Lancet-Clinic*. Many objects are gained, especially the following:

The patient's horror of an operation is overcome by the facts that no knife is used and he is not confined to his bed.

The comparative absence of danger to life.

The fact that one accomplishes the same result that is obtained by use of the knife, though complete obliteration of the canal, by virtually the same means, viz., local inflammation and deposit of plastic material.

The method of procedure is usually as follows: Remove the hair on the affected side, and then carefully cleanse the part with soap and water, as for any other surgical operation. Now carefully insert the index finger into the canal, taking care to push back into the cavity the contents (if any) of the canal; then insert the hypodermic needle directly into the canal and at right angles to it, beyond the tip of the finger, where it can be felt and the needle guided. This is the most important part of the whole proceeding, since, if the fluid be thrown into the tissue surrounding the canal, and not into it, inflammation will result, but not in the canal where it is wanted. This is the greatest reason, the writer thinks, why this method has fallen into disuse, the inflammatory deposit not being in the right place. Having the needle in the canal where it can be felt by the finger, five to ten drops of the following fluids are gently forced in:

℞ Zinc sulphate	15 grains
Alcohol	2 drams
Carbolic acid	30 grains
Water	Q. S. Ad. 1 ounce

The finger is now withdrawn, and the parts gently kneaded, same as after an ordinary injection. The patient will complain of some pain for a few days, but this is not usually severe.

Adhesive Plaster for a Stitch in the Side.—Solberg (*Norsk Magazin for Laegevidenskaben*, 1896, No. 6; *Deutsche Med. Zeitung*, Aug 5, 1897) reports that in a case of pneumonia with severe pain in the side in which he could not resort to the injection of morphine, he applied a strip of adhesive plaster and the result was surprisingly prompt, as in cases of fracture of a rib. He has since employed the plaster in six other cases of severe pain in the side occurring in the course of pneumonia. In four of them, in which the inflammation was in the lower lobe, the improvement was notable. In another case, in which the "stitch" was really in the scapular region, alleviation was effected by applying the strip of plaster directly beneath the axilla. In the sixth case, in which the "stitch" was not severe and the strip was removed at the end of a day because the patient felt a little constrained by it, it was applied again at the patients request. Even the dyspnea and the cough seemed to be mitigated, according to Solberg's observation and the patient's own statements. The strip used was of American adhesive plaster, not more than an inch and a half wide, applied as in cases of fractured ribs.

Tuberculosis Cured by Cancrum Oris.—The following account ot a remarkable case is given by Dr. Hunter Maguire, of Richmond, Va.: Miss P., of Abingdon, Va., was brought to my private hospital, Nov. 9, 1895. She had a hacking cough, enlargement of the glands of the neck, and consolidation of the apex of one lung. I diagnosed phthisis pulmonalis, prescribed constitutional remedies, and advised her being taken to some more suitable climate for the winter.

Before she could make arrangements to leave the hospital she had a severe chill, followed by high fever and a very sore throat. In a few days she developed a typical case of noma, or cancrum oris. The disease attacked the left cheek and when the slough separated, an opening was left as large as a silver dollar, exposing the teeth and rendering feeding difficult. There was high fever, typhoidal delirium and great prostration.

The wound was cauterized and disinfected, and heroic measures used to feed and stimulate the patient, but the symptoms grew worse and little hope of recovery was given to the relatives.

Finally, as a last resort, I began the use of Protonuclein, giving the tablets internally and dusting the powder on the wound. An immediate improvement followed, and after a long and trying convalescence the patient was able to return home.

A year later she returned to the hospital to have a plastic operation done to lessen the deformity of the scar, and when she first entered my office I scarcely recognized the healthy, vigorous woman as my former tuberculous patient. The enlarged cervical glands had disappeared, her lungs were clear, her cough was gone. She had been cured of tuberculosis by the attack of cancrum oris. I have no explanation to offer, but trust the clinical fact will prove of interest to the pathologist.

Iceland Moss as an Anti-Emetic.—Deying and Bricemaret have found that a tincture of Iceland moss (one part of moss to five of 80 per cent. alcohol) was markedly efficacious in arresting vomiting in numerous cases in which emesis resulted from various morbid states. The dose given was thirty to fifty drops. The authors have not had the opportunity of trying the remedy in the sickness of pregnancy.

Modified Opium Smoking in Pulmonary Tuberculosis.—An article on this subject, by J. G. Van Marter, Jr., in the *Georgia Journal of Medicine and Surgery*, concludes as follows:

1. That tobacco, soaked in a non-alcoholic solution of opium, when smoked and inhaled, is adapted to the treatment of those whose circumstances preclude the usual treatment of pulmonary tuberculosis.
2. That it is also well adapted to the relief of those who come under treatment too late for a favorable prognosis.
3. That it seldom harms and often does much good.
4. That it acts both locally and generally, being not simply a palliative, but a curative treatment in some cases.
5. That the credit for this method of treatment is due exclusively to Dr. J. G. Dill, of Brighton, England.

Venesection in Acute Opium Poisoning.—A man (*Med. News*, Aug. 14, 1897) was admitted to the Presbyterian Hospital, New York, with a history of having swallowed two ounces of laudanum two hours before. The patient was intensely cyanotic and could not be awakened.

Pupils minutely contracted. Respirations reduced to nine in five minutes, labored and stertorous. All the ordinary methods of treatment were tried and, after three hours of useless work, it was suggested that, since a large amount of the drug had probably been taken up and absorbed by the blood, if some of the blood could be removed and a pure circulating medium take its place, good results might follow. Accordingly, twenty-five ounces of blood were removed by venesection and one and one-half pints of normal salt solution introduced in its place. Favorable symptoms quickly appeared, and in forty-eight hours the patient was discharged.

The Chloride of Sodium Treatment of Tinea Tonsurans and Tinea Circinata.—This is described as follows by Mr. Charles E. Murphy, in the *British Medical Journal*, Sept. 25, 1897:

All scabs having been removed by soaking with olive oil, or poulticing, the diseased area is well rubbed once or, better, twice a day with a saturated solution of common salt on a small sponge. It is a clean and painless application, but yields its best results when the whole treatment is given by the medical man himself. Cure resulted, on an average, in sixteen days.

The Treatment of Metrorrhagia in Young Girls.—For the treatment of irregular or protracted menstruation, which is not unfrequently observed in young girls, Laroyenne (*Lyon Méd.*, xxviii., No. 26) recommends, in those cases not due to chlorosis, or to inflammatory processes, the thorough curettage of the endometrium. The writer has observed such conditions in eight cases; the patients were between fourteen and seventeen years old. The pathogenic lesion was a fungous endometritis. After the operation a mild etching with chloride of zinc may be desirable. After treatment the intervals between the menstrual periods became longer, and the duration of the periods shorter. Recovery occurred in all the cases.

RETROSPECTIVE DIETETICS.

Strength-Milk.—Jaworski, of Cracow (*Ther. Mon.; Cleveland Med. Gaz.*), has made some observations and collected certain data in the feeding of invalids with a *strength milk*.

Accordingly he recommends a milk with 10 per cent. fat, 1.8 per cent. proteid, 6 per cent. lactose and 0.3 per cent. of salts. A cream with 20 per cent. fat is diluted with water and its percentage of sugar made 6 per cent. Besides the strengthened milk a double milk is serviceable, with 7 per cent. fat, 1.8 per cent. proteid, 6 per cent. lactose and 3 per cent. of salts. Of the first one and one-half liters are taken daily, of the last two liters; they are to be each doubly sterilized. Strength-milk is well borne and a milk diet can be more successfully carried out with it than with ordinary milk. The average increase of body weight is 1 kilogram per week.

Asses' Milk for Infant Feeding.—Klemm (*Jahrb. f. Kinderheilk*) recommends asses' milk as an ideal substitute for mother's milk. He says it resembles human milk in reaction, both being alkaline; in constitution, the total quantity of albumin being the same; the proportion of albumin to casein being almost the same, and like human milk it does not precipitate in the stomach. Asses, as a rule, are exempt, he states, from many diseases affecting cows, especially tuberculosis; the milk, consequently, need not be boiled. The quantity required is the same as of human milk and an excess of fluid is avoided.

Practical Points in the Use of Milk Modification.—In the course of a recent discussion on the above subject, Dr. T. M. Rotch, of Boston, explained certain points that are not ordinarily brought forward in formal papers. Some of the speaker's remarks, as given in the *Cleveland Journal of Medicine*, August, 1897, were as follows: Physicians must learn to use the laboratory. Incorrect prescribing is less dangerous than using artificial foods and not knowing what you are using. I believe in feeding with human milk, but you have to learn how to use it, and when you can not get it you must learn how to use cow's milk. Modified milk is not a cheap food. A great deal of harm has been done by the physicians of New York who say we must have cheap food for the people. I think we ought to give the best food to infants. As in everything else, you have to pay for a good thing. As it is developed it will be made more cheaply. I think we should work in the best way, no matter how we are criticised. There will for a long time to come be cities and towns where a laboratory can not be sustained.

The first step is to recognize the principle. Then carry it out as well as you can. My book gives precise rules how to modify milk. Supposing you are in the country with a baby with weak digestion. See that the cow is clean and milked by some one careful to see that the baby gets the last part of the milk freest from organisms. With a Babcock milk tester you can tell what is the percentage of fat in a given sample.

There is probably some difference beween the proteids of cow's milk and human milk. "Caseinogen" is a better word than "casein," which is being gradually dropped. I think there have been a great many erroneous views held in regard to this difference. We know that the coagulable parts of the proteids in cow's milk is greater than in human milk, therefore, other things being equal, we should prescribe a rather lower percentage in human than in cow's milk. I do not think the Germans have sufficiently proved to us any other difference. I have been very much interested in observing the curds in human milk and have seen them as large and heavy as in cow's milk, and on examination have found that in these cases the proteids were as high as in cow's milk. The reason you note a heavier curd oftener in cow's milk is because you do not usually get so high a proteid in human milk. In regard to the substitution of sugar for the proteids, I think it is very theoretic and do not think it is going to be supported by scientists throughout the world. I do not believe the sugar is going to be used in place of the proteids. The partial digestion, I think, is unnecessary, and the less tampering with the proteids before they enter the stomach the better. The infant's stomach should be taught to digest proteids and not to have them digested for it. Much work of this kind has been done in Germany, but I look upon it with profound skepticism. I do not think they are right. They are always trying to make out differences, but they never have done it. They have gone so far ahead of us in some branches that it is difficult for them to think that we do anything of value here, while in fact they are far behind the times in the matter of feeding.

Coffee as a Restorative Medicine.—Jonathan Hutchinson in his *Archives of Surgery* says that he has long been in the habit of prescribing coffee as a medicine in certain states of great debility. He regards it as a remedy quite unique in its usefulness in sustaining the nervous energy in certain cases. Apart from its general utility, and its well-known value as an antidote to opium, he has found it of especial service after operations where anesthetics had been used, and in states of exhaustion where alcohol had been pushed and a condition of semi-coma followed. In these latter cases he has sometimes prescribed it as an enema when the patient could not swallow, and with the best effects. In many cases where death may be close at hand, such an expedient as this may even be the means of a permanent restoration to health. Tea and coffee seem to be much alike in many respects, but the latter is greatly preferable as to its sustaining power. It would be a great advantage to our working classes, and a great help towards the further development of social sobriety, if coffee were to come into greatly increased use, and if the ability to make it well could be acquired. As an example of the difference of effect of tea and coffee upon the nerves, the writer notes what he believes many sportsmen will confirm, that it is far better to drink coffee than tea when shooting. Tea, if strong or in any quantity, especially if the individual be not in very robust health, will induce a sort of nervousness which is very prejudicial to steady shooting. Under its influence one is apt to shoot too quickly, whereas coffee steadies the hand and gives quiet nerves.

Milk Diet in Kidney Lesions—Dr. Ajello (*Blaet. f. Klin. Hydro-Therapie*) as quoted by the Philadelphia *Med. and Surg. Reporter* (*Med. Rev. of Rev.*), does not believe that the milk diet is best for kidney lesion patients, but that, on the contrary, a "mixed" diet answers a better purpose in general. In his twenty-one cases he noted an increase in the quantity of urine in nine that were kept on a milk diet and eleven on a mixed diet. The albumin decreased in five cases and increased (quite considerably in some) in sixteen cases kept on milk. The urates diminished in ten milk cases, a rather unfavorable phenomenon. The phosphates diminished in seven kept on milk and thirteen on mixed diet.

MISCELLANY.

—Butter made from Pasteurized cream is the latest antiseptic novelty.

—The New York Hospital is being enlarged by the erection of new buildings on Sixteenth Street.

—Justice Kilbreth has ruled that being sworn on the Bible does not imply the necessity of kissing the Book.

—The Medico-Chirurgical College, of Philadelphia, may hereafter confer the degrees of D.D.S., Ph.G., and Ph. D.

—A movement has been made in Berlin for a separate state department of medicine under a responsible minister.

—Dr. Playfair has resigned from the chair of obstetrics in Kings College, London, after a service of thirty-five years.

—Dr. Koplisk has isolated what he considers the specific bacillus of whooping cough, which resembles that of diphtheria.

—The University of Aberdeen has conferred the degree of LL.D. on Dr. William Osler, of Johns Hopkins University.

—The Indiana State Board of Health recommend as a preventive of infection the use of individual cups at communion.

—Dr. Charles West, of London, the well-known writer on children's diseases, died March 19 at the age of eighty-one years.

—The report of the Health Department of San Francisco, Cal., for 1897 shows a death rate of 17.08 and a total number of births of 5,159.

—All unacclimated troops sent to Havana and other parts of Cuba will be inoculated by way of prophylaxis with the yellow-fever antitoxin.

—The report of the Massachusetts Homoeopathic Hospital for 1897 shows an average death rate of 3.44 in the 1,566 cases under treatment during the year.

—Dr. William Francis Honan, visiting surgeon of the Hahnemann and Metropolitan Hospitals, has been appointed medical examiner by the New York Life Insurance Co.

—A chart of the death rate of London from the beginning of the seventeenth century to date shows, among other things, that from 1660 to 1679 the death rate was 80; in 1888 it was 18.

—The fact that peanuts, or the ground nut, contains but little if any carbohydrates has led to the use of the meal in bread and biscuits, which are highly palatable, in cases of diabetes and obesity.

—Dr. Mundie recommends vaginal injections of bromide of potash, one drachm to a pint of water, in cases of so-called irritable uterus, diffuse pelvic pains and hysterical neurosis in various parts of the body.

—Diabetes, Dr. Storey says, in this disease restriction of food serves no useful purpose, and restrictions in drink only do harm. The most advisable course is to permit the patient to use water without restriction.

—When intending to examine under the microscope for pus cells, says the *Medical Age*, first add to the specimen a little tincture of guaiacum, which colors the cells blue, and, of course, renders them much more visible.

—The best preservative of eggs has been found to immerse them in a solution of waterglass or to coat them with vaseline, and put them in lime water. In this way they can be kept fresh for any length of time.

—J. Lewis Crozier, of Chester, Pa., has left a bequest of half a million of dollars for the erection and support of a homeopathic hospital in that place. A plot of forty acres has been purchased for the purpose for $100,000.

—Dr. Norman Kerr, of London, denies the statement often heard that "doctors' orders" are a frequent cause of inebriety. He has studied the subject and is able to trace such a cause in not more than one-half of one per cent.

—Ord has found strophanthus, in five drop doses, almost a specific in the chronic forms of urticaria. It is particularly indicated in the anemia of young women, especially if there is accompanying cardiac weakness with palpitation.

—Professor Von Esmarch, of Kiel, recently celebrated his silver wedding with his second wife. He is seventy-four years of age, and his wife was one of his patients, Princess Henrietta of Schleswig-Holstein, aunt of the German empress.

—The request of a member of the Bavarian Parliament that a chair of homeopathy be introduced into the University of Munich was denied; the reason given was "the need of such a chair was not felt, inasmuch as homeopathy was not a science."

—John R. Proctor in the *Century Magazine* for March in speaking of the Mammoth Cave says it has a uniform temperature summer and winter of 54 degrees. The cave breathes twice a year intaking the air during the winter and breathing it out during the summer.

—The action taken by the H. K. Mulford Co. against the *North American Medical Review*, on account of certain charges appearing in the November issue of that journal reflecting on the product of this house, has been settled by a complete denial of the charge, on the part of the *Review*.

—Jones (Buffalo *Med. Jour.*, February, 1898,) reports a case in which he resected thirty-two inches of gangrenous intestine, employing the Murphy button for anastomosis. Although the woman was in a state of collapse at the time the operation was performed, she made a complete and uneventful recovery.

—Dr. E. L. Crutchfield, in a paper read before the Baltimore Medical Association, describes two cases in which herpes zoster appeared after the administration of arsenic continuously for some time. He cites the opinion of others as to the development of this affection by the use of arsenic for long periods.

—Pychnowski claims to have discovered an electric fluid which he calls electroid. It produces light and causes Geisler tubes to emit fluorescent rays. It works photochemically, rotates objects in midair, produces whirlpools in water, and kills bacteria. With it metal and glass can be charged with electricity.

—Dr. Henry A. Robbins in a paper read before the Medical Society of the District of Columbia reports a case of syphilis which he doubted not had been contracted in a barber shop supposed to be first class. He cites a number of other similar cases reported by other observers. The danger of infection of the scalp with germs causing baldness is also referred to.

—Several prominent insurance companies (says the *Medical Herald*) refuse to consider an application from a "graduate" of a Keeley cure, no matter how good a risk otherwise the man may seem or how little of an inebriate he may have been. The reason given is that persons who have undergone this "treatment" are prone to premature death, due, supposedly, to the severe drugs used.

—A portable piano has been designed for the use of invalids having musical tastes and who are obliged to remain in bed. It was suggested for a patient with a complicated fracture of the leg, under the care of Drs. Keser and Spicer, of England. What looks to be only the upper part of an ordinary piano is fixed on wheels. It can be brought directly over the bed, and removed, with the greatest ease It can also be raised or lowered to any height.

—Snaitken, according to the *Medical Review*, says that the Moors are inveterate coffee drinkers, especially the merchants, who sit in their bazaars and drink continually during the day. It has been noticed that almost invariably when these coffee drinkers reach the age of forty or forty-five their eyesight begins to fail, and by the time they get to be fifty years old they become blind. One is forcibly impressed by the number of blind men seen about the streets of the city of Fez, the capital of Morocco. It is invariably attributed to the excessive use of coffee.

—At the recent meeting of the Mississippi Valley Medical Association it was stated that an examination of 150 male employees in a large tobacco factory, all of whom used tobacco, either by chewing or smoking, revealed impairment of vision in every case. In forty-five the visual acuity was much diminished, in thirty cases the impairment being serious; the men mistaking red for brown or black, and green for blue or orange. Many of them were also unable to distinguish the white spot in the center of a black card.

ORIGINAL ARTICLES.

HEREDITY.

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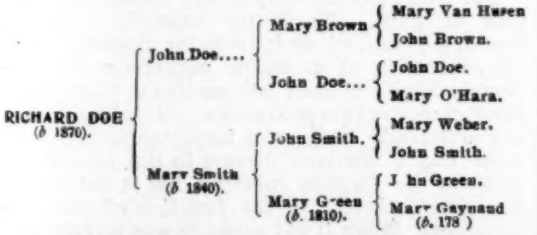
IN presenting this article the writer must confess to being in somewhat the same position as the average reformer who writes letters to the daily press, combating the views of others while obviously not too well informed himself. This position is inevitable, since only a Methuselah who had given his attention to recording personal history and who had retained his faculties to the last, would be able to command our respect as an authority on heredity. Medical ideas as to heredity are largely influenced by custom. Notably, in regard to gout, tuberculosis and cancer, to a less degree concerning diabetes, tabes and rheumatism, we are in the habit of asking about the occurrence of the same disease in the family. Some life insurance companies also insist on a family history extending back to the grandparents. If the applicants forget or falsify concerning tuberculosis, etc., such questions do no harm; if the applicants are both truthful and of good memory, they are compelled to pay an excess rate for a few years or may be rejected entirely. Heredity in a medical sense usually goes no farther than brothers and sisters and parents. Almost never is it possible to pass beyond uncles and aunts and grandparents. Such heredity scarcely deserves the name, yet perhaps it is the most reliable for the medical man, since genuine heredity means so much that it loses almost all of its practical, medical significance.

To explain this last paradox—and the matter of heredity involves many paradoxes—let us map out an imaginary family tree, using the Christian names John and Mary, throughout, to indicate sex, and such ordinary surnames as may suggest themselves, taking care only to distribute them so as to indicate an average mixture of race.



It will be noted that the average generation-interval has been taken in each case, although, actually, generations may overlap so that the same time-ordinate may correspond to, say, the fifth generation in one line and the seventh in another. Such discrepancies arise especially from protracted periods of child-bearing, with the production of many members of the same generation, from second marriages and from the former custom of marrying girls at early ages. On the average, however, a young person in active life at present is descended from sixteen ancestors of similar age at the time of the Revolution. Going back to the beginning of colonization of New England, the seventh generation, the number of ancestors becomes 2^7, or 128, and from this time, the number increases rapidly. In the twentieth generation—and it is by no means uncommon to find even democratic Americans who trace at least one line back as far as this—the number of ancestors amounts to over a million. President David Starr Jordan, of Leland Stanford, Jr., University, makes use of this mathematic computation to show the high degree of probability of any one Englishman—or colonial American—of the present day, being descended from almost any prominent Englishman of antiquity, say Alfred the Great. This line of argument, however, receives a check which at first seems slight, but which has the cumulative properties common to almost all genealogic factors. While, theoretically, we can consider the modern individual as the apex of an inverted pyramid of ancestors, practically, modern persons form the base of a pyramid which we may truncate at any plane in history. In other words, as the theoretic number of ancestors increases, the actual population from which those ancestors were drawn decreases, and we must allow for the intermarriage of relatives. An actual example of this process will show how considerable a factor may be eliminated within a short period, historically. G. should have thirty-two ancestors in the fifth generation going backward (2^5). Only seven of these are known. Owing to several instances of intermarriage of first cousins he could have had only twenty instead of thirty-two ancestors. But as he was born in 1790 and his ancestors, therefore, lived at a period of comparative isolation, when intermarriages were the rule, it is altogether likely that some of the sixteen unknown ancestors were duplicated. This is by no means an exceptional instance, for most of the colonization of our country was by communities which had intermarried in the little English villages whence they emigrated and which were destined to intermarriage in the new world for several generations more.

The American Indians were, in one particular, far more scientific and politically wise than their white usurpers, in that they recognized inheritance through female lines. Nor was this, as has been insinuated by certain superficial students, because it required more than the average amount of Indian wisdom to know one's father. There is a law of heredity which seems to be very little understood, that a child of one sex is rather more apt to inherit the physical and mental peculiarities of the parent of the opposite sex. If we accept this law, it follows that a man's characteristics descend in a zig-zag line, from male to female, and the characteristics of a family—using the word family in the surname sense—are really contributions from females of other families, while these same characteristics tend to be thrown off, centrifugally, by the marriage of the females into other families. In other words, if a family characteristic exists at all, it must be expected to skip generations and also to extend to other

related families. Thus, the paradox is explained that heredity means so much that it means very little. The writer may be pardoned for going into this subject at some length, because it is so freely claimed by implication—of course, no one is so absurd as to make the claim explicitly—that cellular reproduction follows our purely artificial system of proper names. Writers of genealogies have very commonly fallen into the error of describing general traits of their particular family. Often, it happens that a member of such a family can trace his descent through only one male line of the surname, while, by intermarriage of distant relations, a person of an entirely different surname has two or three roots in the former family. It is obvious that, if general characteristics exist at all, the latter stands a much better chance of inheriting them. Fortunately, the family traits claimed by genealogists are uusally merely those which might be claimed by any respectable individual of the race.

It has lately been gravely stated that "the theory of Weissman that acquired characteristics are not transmitted by heredity has not found favor with the medical profession." If acquired characteristics are not transmitted, there is nothing left for transmission save the very general attributes of humanity at large or of a race. If, however, we recognize heredity of acquired characteristics, we must admit a tendency to variation among brothers and sisters. This is certainly noticeable in many instances. For example might be cited a lady whose four daughters are different in appearance, physique and mental qualities. In the first may be recognized the reticent and delicate bride; in the second the less dignified but sickly young matron; in the third the matron restored to health and in the vigorous prime of life, sexually strong and with abundant energy for domestic duties; in the fourth the mother grown anxious and querulous by the too protracted strain of domestic cares. The most limited kind of acquired characteristics are such as are transmitted by "maternal impression." Although superstition and gross ignorance have tempted the scientific observer to pass over the whole subject of maternal impressions with skepticism, there certainly seems to be much truth in the underlying principle, and we may admit that qualities affecting a mother strongly, although transiently, during pregnancy, may be conveyed by heredity to the child. The general law seems to be that the more temporary and personal a characteristic is, the less powerful is it in relation to heredity, and that parental traits long acquired and firmly fixed by habit are of greater transmissibility than temporary conditions; going further, it is evident that as part of the same law, we must recognize that racial traits and those representing the common qualities of a large number of ancestors must take precedence over merely parental acquisitions. As a corollary, the optimistic view may be expressed that hereditary tendencies are usually toward the normal and away from the deviations of any particular ancestor or parent. Thus, blood, like water, tends to purify itself in flowing from a spot of contamination.

Heredity of disease is, in the writer's opinion, a much overrated factor. Disease is a tendency toward death; heredity is a vital power which enables certain cells not only to reproduce but to reproduce nearly their exact kind. To say that a vital process like reproduction is intimately connected with the tendency toward a certain form of death, is on much the same line as speaking of hereditary sterility. Nevertheless, we must grant that, abnormally, just this paradox is fulfilled; but in such instances one of two things must happen, either the death tendency must conquer, when the family branch will die with the disease tendency, or the life tendency will conquer, when the hereditary taint is thrown off. The only exception to this law of the extermination of disease heredity is in the case of a disease of a non-intectious character, which manifests itself after the reproductive period, which is intimately connected with senility, which may almost be said to constitute a certain phase of senility. But, even here, we cannot imagine that the disease will be limited to surname lines nor that it will become established within the two or three generations which the physician usually finds accessible. In other words, the disease must become a general characteristic of a large number of related families—not necessarily related within the ordinary cognizance of relationship—in other words, of a race. And, since such a disease tendency must become established gradually by the repeated impact of acquired characteristics, we must admit the converse possibility that favorable influences, sufficiently powerful or sufficiently frequent in their action, will destroy the evil tendency of heredity. In plain, concrete terms, this means that the rheumatic, asthmatic, cardiac and renal diseases and the weak female constitutions of the last two or three generations of colonial Americans are being eliminated by improved ways of living. Proper clothing, abstention from alcoholic beverages, more temperate eating, exercise, common sense with regard to the menstrual function, later marriages, better treatment of women with beginning pelvic disease, the growing unpopularity of invalidism, are the main factors in this change.

The change of heredity is well illustrated in the case of gout. No better example could be found, *a priori*, of an inheritable disease. It is the expression of a chemic perversion of function; it manifests itself late enough in life to avoid interference with reproduction, yet its beginnings are sufficiently early to be imparted to offspring. Gout was a common disease in the families of many of the English colonists, but it did not appear to any extent in the families of their descendants. When it did occur, it was no respecter of surnames, but followed those branches which had acquired the means to discontinue the hearty, outdoor life of the pioneers. Comparatively lately, lithaemia, sometimes called American gout, has developed in the same families and the temptation is strong to consider it due to a belated heredity. But against this idea is the obstinate fact that between lithaemia in the twigs and gout in the roots are several generations of sturdy branches free from either form of the uric

acid diathesis, though liable to other diseases. Longevity and fecundity would seem to be proper subjects of hereditary law, and it is possible to adduce statistics to show surprising numbers of old persons in certain families. But longevity is largely a matter of circumstance. A hereditary tendency to old age is just as great when derived from a father of thirty, killed by accident or infectious disease, as from his brother of equal physical powers but escaping such causes of death. The inheritor may lose his birthright quite as suddenly as the parent or ancestor lost his fulfillment of longeval powers. Beyond the age of sixty-five or seventy the preservation of life even to a phenomenal age depends largely on such prosaic factors as the presence of a daughter to insist on the wearing of rubbers or the change of undergarments, or of a friend with an umbrella at an opportune moment. Fecundity depends, in each normal family, on two parental factors which are, on the average, equal. It also depends on social, moral and financial factors, and these seem to be, practically, far more important, since almost every nation shows a declining birth rate as the need of offspring becomes less, while the pioneer stage of almost every colony has been marked by an amazing fertility. For example, there may be cited a family which for three generations was represented by a single child. The last of these, marrying an only child and emigrating to America, produced a family of nine. From this time, for several generations, families of from nine or ten to two dozen were common, and the male descendants of the one original couple have made the surname a comparatively common one, within eight generations. This is by no means exceptional. Take any American name, neither too rare nor too common. If it can be traced beyond the establishment of Castle Garden, the chances are probably seven out of ten that it can be traced to a single American ancestor, or to two or three brothers. Within the last two or three generations fecundity has lessened again, for the simple reason that it no longer stands for strength and wealth, but for weakness, poverty and misery, under average conditions.

Tuberculosis is an infectious disease concerning which heredity has been considered a powerful factor both by medical practitioners and actuaries of insurance companies. The fact that inquiry concerning familial tuberculosis almost never fails to elicit an affirmative reply, has perpetuated the belief in its heriditary nature. As has been pointed out in a semi-popular article in Appleton's *Popular Science Monthly* for November, 1895, there are fallacies in this assumption. About one-ninth of the population of the United States die of what is unequivocally pronounced consumption. Acute pulmonary diseases, diarrheal diseases, diseases of the nervous system (especially tubercular meningitis), diseases of the osseous system (a very large proportion of bone and joint diseases are tubercular), infantile diseases (especially marasmus), typhoid fever (confusion of acute miliary tuberculosis) are headings in the mortality tables which undoubtedly include an additional fraction of deaths from tubercular disease. If we exclude deaths from violence, old age and those of very early infancy, one death out of every four or five occurs as the result of turberculosis. With such an enormous prevalence of a communicable disease, a family history of tuberculosis is to be expected in practically every case, tubercular or not. This argument is fortified by the results of autopsy on cases of accidental death, which show a surprising prevalence of healed tubercular lesions, and which support the German adage, "After all, everyone is a little tubercular." From quite a different standpoint the idea of the essential heredity of tuberculosis may be attacked. It is universally recognized that the birth of a tubercular fetus is rare, hence it is claimed that the diathesis is hereditary. Tuberculosis is due to a germ which requires no intermediate host and no period of rest or preparation outside the body before becoming actively contagious and infectious. It is just as senseless and, from the sanitary standpoint, just as criminal to speak of a family tendency to tuberculosis when one member after another sickens with the disease, as to use the same language if several members were afflicted with scarlet fever, diphtheria or typhoid, successively. When we consider the long duration of the average case of tuberculosis, the immense number of virulent bacteria eliminated, the failure of efficient quarantine measures or of even a pretense at segregation, the exposure of young children to kissing, nursing and other sources of contagion, the wonder is, not that a specious argument can be built up to support the hereditary nature of tuberculosis, but that many escape the disease.

The protozoan nature of cancer is not fully established, but is highly probable. As to etiology, setting aside the true organized cause, two facts are conspicuous: (1) the vulnerability of senile tissues; (2) the predisposing nature of continued slight traumatisms. The arboreal and water-borne theories of etiology are not generally accepted. That cancer is increasing in prevalence is not surprising, when we reflect that human beings must die of something and that every effort is now being made to remove accident and ordinary infection as lethal factors. Considering the average frequency of cancer, it does not appear that cancer patients show any significant number of ancestors and collaterals affected with this disease, except when an unusually large number of survivals to an old age, or circumstances pointing to the establishment of a focus of disease, can be adduced.

In regard to various other infectious diseases, medical history establishes beyond question that, far from tending to increase in prevalence or malignity, they have actually shown the opposite tendency. Syphilis is by no means the virulent disease that it once was; typhus fever and cholera have been successfully resisted by quarantine; typhoid and diphtheria, which have been clinically recognized but few generations, are already claimed by many observers to be diminishing in severity; measles, smallpox, etc., have shown much more than their customary malignity when they have broken out among the American Indians for the first time. In short, there seems to

be not a hereditary tendency toward infectious diseases, but rather a relative hereditary immunity.

Many so-called nervous and mental diseases show genuine marks of heredity, and it is significant that impressionability and general loss of nervous control are inherited rather than definite diseased conditions. Genuine anatomic anomalies are also hereditary in much the same way as physiologic defects of the nervous system. In these cases, the hereditary taint usually affects only one or two members of a generation. If the family is afflicted generally, a few generations usually suffice to extinguish the trait, either with the family or by the superior strength of normal tendencies. In some cases a hereditary taint, such as insanity, prevents the marriage of most of those actually afflicted and of the women of a family, while the unaffected males marry, bringing in healthy blood. By the law of crossed heredity, the neurotic taint would tend to be transmitted to female offspring, while the males would inherit largely from wholesome maternal stock. Thus, theoretically, the surname line would tend toward purification.

In summing up, the writer would emphasize the following beliefs:

1. Much of what is commonly ascribed to heredity should properly be credited to infection, environment or even chance;

2. True heredity deals with general and acquired traits, rather than with disease, which is essentially foreign to the organism;

3. On account of the vast number of ancestors involved, the introducion of fresh blood by intermarriage and the crossing of hereditary tendencies from one sex to another, there is, on the whole, a tendency to reversion to general characteristics and to purification from taints;

4. A disease, to be hereditary, must depend on some intrinsic physiologic or anatomic abnormality and not essentially on infection; if it manifests itself before the period of reproduction, the tendency must disappear either with the destruction of the family or by the superior force of the normal tendencies; if it does not interfere with reproduction, it is still amenable to hygienic precautions;

5. The only intelligent knowledge of heredity must come from a close study of genealogy, carried on impartially and without the present unworthy incentives.

SOME OBSERVATIONS CONCERNING THE MILK AND SERUM OF GOATS.

By W. Thornton Parker, M.D., Groveland, Mass.

THE horse, the buffalo, the cow, the ass, the sheep and the goat are animals which have been preeminently useful and valuable to man, from the beginning, in his daily struggle for an existence.

These animals in all the details in which they have been and are still indispensable would require a large volume to properly describe their merits. Of these few animals, perhaps the least really *known* is the goat, save as an illustration of frisky caprice adorning the rocks of Harlem or as a mascot on a man-o'-war, but for the utilitarian affairs of life he is seldom mentioned. I have found the study and the care of them a real pleasure. They are easily domesticated, and in spite of the popular notions to the contrary, they are capable of very strong affection and attachment to their masters. I believe that to encourage a general interest in the rearing of well-bred goats would be increasing the means of health and comfort in the life of the home and of the community, not to speak of their value from a commercial standpoint.

In a recent number of the New York Medical Times (January, 1898) and of *Pediatrics* (February, 1898) I have called attention to the value of goats from a physician's standpoint. I have tried to establish the proof of the value of their flesh, their milk and of their blood and blood-serum (normal non-immunized).

In these investigations I have received considerable assistance from foreign sources, but I am more particularly indebted to Alvey A. Adee, Esq., Second Assistant Secretary of State, for reports from the Consuls General of Switzerland, Ireland and France, also to Drs. Carl von Ruch and Ashmead. The last reports I have received are published with this paper.

It may be well to first consider the question of goat's milk. While serving in the medical department of the army in New Mexico in 1867-8 I used considerable quantities of goat's milk and butter, and found this food perfectly agreeable and nutritious. The Mexicans are very fond of goat's milk and butter. They rear large numbers of goats and eat the flesh of these animals. Almost anyone who has a home can make a practical test of this matter and at very slight expense.

The milch goat has been aptly described as "the poor man's cow," a designation it well merits, for with a couple of these animals the cottager may at almost nominal expense enjoy the same advantages in a domestic point of view as the rich man with his "Alderney."

Comparatively few goats are kept in New England, because the advantages are scarcely known and seldom appreciated.

The goat in a state of nature frequents hills and mountainous places, and in a domesticated condition it generally gives preference to elevated situations, but it is a mistake to suppose that it will not thrive upon any wholesome grass land, and it will be found to adapt itself to its surroundings with contentment. It is not only the poor man's *cow*, but it is "the children's model dairy."

Goat's milk resembles cow's milk, the butyracious matter which enters into its composition is more nutritious than than that of the cow. Milk contains nearly all the elements which are essential constituents of the human body and is an excellent food. Bartholow states that milk is constituted essentially of four elements—albuminoid, fatty, saccharine and saline—and therefore contains all the materials necessary for the growth and nutrition of tissues. Goat's milk is rather richer in solids than cow's, according to Payen 14.4 per cent. It also contains a peculiar smelling acid, hircic, and specific gravity 1032 to 1036. Cow's milk 1030, ass's 1023 to 1035.

A cow gives variable quantities of milk according to age, race, etc. Twenty to twenty-five pints in twenty-four hours, and goats give from six to eight pints. The hircic acid referred to is a mixture of various homologous fatty acids contained in certain animal fats. The Standard Dictionary defines hircine—of, pertaining to, or like a goat; especially having a goat-like smell. Of course the milk of the goat depends largely upon its feed. Goats receiving good care, abundance of pure water, good hay, grass and grain, with clean and wholesome barns and with fields accessible where they can obtain sunshine, yield a superior milk to those which from their miserable surroundings and improper food are continually neglected. The goat keeps healthy and contented under treatment which would seriously damage other animals.—NEW YORK MEDICAL TIMES, January, 1898.

The following report from the New York Consul at Dublin, Ireland, is interesting in this connection:

GOAT'S MILK AS A REMEDY IN PHTHISIS.

In reply to the Department's Despatch No. 56, dated Dec. 11, 1897, requesting a report upon the use of goat's milk as a cure for consumption, I have to report that in so far as I can learn no experiments of this kind have been made. A Royal Commission has recently taken testimony in Ireland respecting this disease, but I understand that its inquiry was directed more toward ascertaining the effect of the use of milk from cows affected with tuberculosis in the spread of phthisis to the human family. Sir Charles Cameron, M.D., chairman of the Public Health Committee, says that he knows nothing of any experiments in the use of goat's milk having been made. Dr. Joseph O'Carroll, who is the consulting physician to the hospital for consumptives, founded in County Wicklow, some two years since, writes me:

"I think I am correct in saying that no particular reliance is placed on that article of food (goat's milk) as having curative properties. I am not aware that any particular study of the effect of goat's milk in phthisis has been made in this country. It is probably true that phthisis is relatively rarer in the parts of the country where goat's milk takes the place, to greater or less extent, of cow's milk in the dietary of the people; but I should not connect the two facts as cause and effect. Both are probably related to the nature of the district; for instance, high level above the sea, a rocky or barren soil, scanty population, and such circumstances. The death rate from phthisis would be, or rather is, much lower in Donegal than in a population of similar size packed in the villages and towns of richer and lower lying parts of Ireland."

Sir Charles Cameron, M.D., expressed the opinion that there *might* be some virtue in goat's milk as a preventative, as goats were less subject to tuberculosis than cows, but that sterilized milk would probably be more efficacious than goat's milk as a preventative. He was of opinion that there was no virtue in the use of goat's milk as a cure when the disease had once been contracted.

(Signed) NEWTON B. ASHBY, Consul.

U. S. Consulate at Dublin, Jan. 24, 1898.

Referring to the statement, just quoted, of Dr. Cameron's concerning tuberculosis in cows, it is certainly a well-known fact that cows are quite commonly afflicted with tuberculosis, more especially those which are confined. Their heads are held fast and they are forced to inhale continually considerable dust. The lack of exercise and the consequent quiet of the lungs predisposes the animal to attacks of tuberculosis. The horse has exercise and daily opportunities to expand the lungs normally which the cow has not.

This is a very good reason why cows are more likely to be diseased than horses. While the horse is somewhat confined by the halter and is forced to inhale more or less dust, the *goat* is quite free and spends his time in the fields frisking about and enjoying abundance of exercise with normal lung expansion. There is no animal more healthy and in my opinion not one so perfectly *free* from tuberculosis.

This matter of the inhaled impurities as a source of tuberculosis is well demonstrated in MacAlister's translation of Ziegler's "Pathol. Anatomy," p. 845, section 600, and in the study of tuberculosis deserves especial attention.

The statement that "sterilized milk would be more efficacious than goat's milk" will not be any serious attack upon the position which we have taken that goat's milk is *the* nutrient in tuberculosis and other wasting diseases—naturally not the *only* nutrient. We do not advise the exclusion of wholesome bread, corn meal, etc., etc.

The animal organism requires food for a two-fold purpose: (1) to furnish material for the building and repair of tissues and (2) to supply fuel for the production of material of the body from consumption. (See Atwater and Langworthy's "Digest of Metabolism Experiments," in which the balance of income and outgo was determined.— *U. S. Dept. of Agriculture, 1897.*

"Immunity is the condition in which the body of an animal resists the entrance of disease-producing germs or having been compelled to allow them to enter, resists their growth and pathogenesis. The resistance so manifested is a distinct potential, vital phenomenon. Susceptibility is the opposite condition, in which, instead of resistance, there is a passive inertia which allows the disease-producing organisms to develop without opposition.

"Susceptibility is accordingly the absence of immunity.

"Immunity is either natural or acquired.

"Natural immunity. By this term is meant the natural and certain constant resistance which certain healthy animals exhibit toward certain diseases." (McFarland's Text-Book, "Pathogenic Bacteria," p. 59.)

"The essential difference between a susceptible and immune animals depends upon the fact that in one the pathogenic germ, when introduced by accident or experimental inoculation, multiplies and invades the tissues or the blood, where by reason of its nutritive requirements and toxic products, it produces changes in the tissues and fluids of the body inconsistent with the vital requirements of the infected animal; while in the immune animal multiplication does not occur, or is restricted to a local invasion of limited extent, and in which, after a time, the resources of nature suffice to destroy the parasitic invader." ("Immunity and Serum-Theraphy," Surgeon General Sternberg, U. S. Army.)

Emmerich, Tsubos, Steinmetz and Low (1892), Dr. Sternberg states, have after extensive experiments "arrived at the conclusion that the germicidal action of blood serum depends upon a specific property of the alkali serum albumin, and that it is a purely chemical process. . . . It seems probable that the germicidal property of freshly drawn blood serum is not due to its albalinity, *per se*, but to the fact that the germicidal constituent is only soluble in an alkaline fluid." Dr. McClintock and Dr. Sternberg have both demonstrated "that the germicidal constituent of blood serum is a nuclein," and that "this nuclein is undoubtedly furnished by the polynuclear white corpuscles."

Very important in this connection are the researches of Dr. Sternberg and others—demonstrating that "the number of leucocytes increases in certain infectious diseases, and this increase, together with an increased alkalinity of the blood appears to be a provision of nature for overcoming the infection which has already occurred."

The experimental evidence submitted by Billings and quoted by Dr. Sternberg "leads us to the conclusion that natural immunity is due to a germicidal substance present in the blood-serum which has its origin (chiefly, at least) in the leucocytes, and is soluble only in an alkaline medium," and further it is stated "that local infection is usually resisted by an afflux of leucocytes to the point of invasion; but that phagocytosis is a factor of secondary importance in resisting parasitic invasion. Also that general infection, at least in some infectious diseases, is resisted and in non-fatal cases overcome by an increase in the number of leucocytes and in the alkalinity of the blood-serum which favors solution of the germicidal proteids contained in the polynuclear leucocytes."

Dr. Sternberg also states that "there is experimental evidence to show that immunity from the pathogenic action of certain bacteria may be produced by previous injections of cultures of other bacteria (sterilized or otherwise) *and even* by the *injection* of the *blood serum* of *normal individuals* or of other substances."

Calling attention to the germicidal power of blood, Dr. Sternberg quotes the experiments of Von Fodor (1887), Nuttall (1888), and states that "further researches by Behring and Nissen (1890) show that there is a wide difference in the blood of different animals as to germicidal power, and that certain bacteria are promptly destroyed while other species are simply restricted for a time in their development or are not affected."

Dr. Sternberg also quotes Buchner and Hankin attributing the "origin of the germicidal proteid in fresh blood serums to the leucocytes." Buchner has called attention to the fact that a "clearly marked distinction must be made between natural immunity and acquired immunity, inasmuch as the alexions and antitoxins have very different properties."

The researches of Bertin, Pico, Bernheim, Lepine, Richet and Hericourt, are particularly valuable in the serum-therapy under consideration. I have quoted from the International Medical Annual of 1892, very carefully, the experiments of Dr. Lepine. The statement that he prefers the *serum* only, and that the corpuscles appear to hinder the good effect, is confirmatory of the theories advanced by Dr. Sternberg and others which we have just quoted—namely that the "germicidal constituent of blood-serum is a nuclein furnished by the polynuclear white corpuscles."

The claim which we wish to make, therefore, is that goat-blood serum supplies a natural antitoxine and that its employment subcutaneously or otherwise in the treatment of tuberculosis and other wasting diseases is amply justified by scientific research.

The report of the Consul General of France, which is contributed to this paper, more particularly concerns the *immunized* goat blood serum —according to methods well-known and understood by bacteriologists, and is a valuable accession to the literature on this subject.

"There is yet another kind of immunity—an innate or species immunity—which renders certain species incapable of acquiring a disease which is deadly in other animals.*

Dr. Richet and Hericourt have endeavored to confer on an animal liable to tuberculosis a more or less marked degree of immunity to tubercular infection by the transfusion or introduction into the economy of the blood of an animal refractory to tuberculosis†. In the *Gazette des Hopitaux*, July, 1895, Dr. Brinit, of Marseilles, contributes a very interesting paper on the inoculation of goats, and in the Journal of the American Medical Association, Oct. 23, 1897, Dr. Ashmead has presented some valuable evidence confirmatory of the natural immunity of the goat and the transfusion of goat's blood in the treatment of tuberculosis. Normal non-immunized goat's blood serum introduced into the circulation of patients suffering from tuberculosis does, by the process of mixing a healthy antitoxic fluid with the circulating fluid in the individual, counteract the march of the disease, sustain and nourish the patient and in a reasonable time will successfully bring about a cure—in a large per cent. of cases. The experiments of Dr. La Crug, with normal horse blood serum in the treatment of wasting diseases in children, are most interesting in this connection.‡ The serum seems to act as a most powerful tonic. The red corpuscles increase in number—the patient gains in weight and becomes stronger. There is no outward secondary effect, except slight rise of temperature and some acceleration of the pulse. The good effects of the injections are quickly manifested, cases of athrepsia in particular are speedily benefited and the cure is maintained.

The still stronger antitoxic properties of normal goat blood serum are therefore valuable in the same respect, and whatever is true of normal horse blood serum as a means of cure applies with equal force to normal goat blood serum. There is no difficulty in preparation, no toxic agencies to guard against—a pure serum for serum therapy.

REPORT OF CONSUL GENERAL OF FRANCE ON GOAT-BLOOD SERUM.

PARIS, March 10, 1898.

SIR: Referring to the Department Instructions, No. 22, of Sept. 10, 1897, I have the honor to submit the following information concerning the methods and management of alleged cures effected by the injection of goat serum in France. In 1894 Dr. Grancher made a statement to the Berlogical Society of Paris, that he had obtained good results in the treatment of experimental tuberculosis by subcutaneous injection of goat serum. The theory was that goats being inimical to tuberculosis the serum of this animal would be counteractive to the bacillus of tuberculosis and its products. Later the same theory was advanced with regard to the curative properties of asses and dogs. Quite a number of cases of human tuberculosis were treated by Grancher and his colleagues in the hospitals of Paris, with what appeared to be flattering results, especially in cases of incipient tuberculosis. Subsequent observations made, however, on these apparently cured cases are said to have demonstrated that the treat-

* Passed Asst. Surg. F. J. B. Cordeiro, U. S. Navy, in Surg. General's Report, U. S. Navy, 1895.

† Paper by writer in NEW YORK MEDICAL TIMES, Jan. 1898, quoting International Medical Annual for 1892, on goat blood serum.

‡ "The Treatment of Athrepsia," by the writer in *Pediatrics*, February, 1898.

ment had had no effect. The good results were more imaginary than real. It was then that Dr. Bernhein advanced the theory that the transfusion of considerable quantities of goat's blood or serum was curative in tuberculosis; his theory was the same as that of Grancher, but its application was different. Transfusion of the blood directly into the veins and thereby establishing for the time being a temporary state of the blood which would resemble that of the goat. A physician who has made some experiments according to the methods of Grancher and Bernhein and to whom I applied for information on the subject, stated that the treatment has only been applied to a few cases and without any good results; that the treatments of both Grancher and Bernheim have now been before the entire medical profession of France for over three years, and that Bernheim's favorable opinions of the effectiveness of his method has not in a single instance been confirmed. Grancher, he stated, had admitted his failure.

On the other hand, Dr. Bernheim states that he has treated a number of cases and all with perfect success. The following translation from the chapter on Tuberculosis, in a book on "Immunization et Serum Therapie," published recently by Dr. Bernheim explains his method with greater precision than could be done by one having no therapeutical and experimental knowledge of the subject:

A great number of experimenters have sought to confer immunity from tuberculosis upon animals, by inoculating them with the soluble products naturally secreted by the bacillus of Koch. Some heat their products and others filter them in order to inoculate the toxics under the hypodermis, or into the peritoneum or directly into the vein. Courmont and Dor who followed particularly these studies, declare that the soluble products secreted by avicular tuberculosis bacillus, which one isolates on filtering through porcelain, are not toxic for rabbits in doses of one cubic centimeter for each one hundred grammes of living weight, whether introduced into the peritoneum or in the venvas system. These soluble products possess the property to fortify the system against the infecting microbes. The immunity thus conferred is still vital at the end of seven months. The vaccine of avicular origin is capable of fortifying the rabbit against a tuberculosis affection of human origin.

Robert Koch pretends that one cannot only vaccinate but cure tuberculosis with the aid of these concentrated toxic: "The guinea pig, which is an animal excessively sensitive to tuberculine, becomes refractory when treated with one of these substances for the inoculation of tuberculosis virus. This same substance stops completely the morbid process when it is injected into a guinea pig already in an advanced stage of tuberculosis, and this without inconvenience to its organic system." Other experiments have pursued these same researches with or without success. But we must acknowledge that Courmont and Dor were the first to utilize toxics in order to obtain immunity from tuberculosis. The only reproach that can be made is their not having strengthened this refractory state by further injections of toxics, and not having tried the serum of their subjects thus prepared in the treatment of tuberculosis. Although all animals are susceptible of contracting phthisis, they are not, however, susceptible in the same degree. Certain of them, namely, dogs, asses, and goats, appear to enjoy a certain relative immunity, and these animals rarely become spontaneously tuberculous. It is not surprising, then, that the serum of these animals has been utilized in the treatment of phthisis.

Richet and Hericourt, as far back as 1889, injected dog serum in doses of from 2 to 10 cubic centimeters and later Bertin and Pico of Nantes, inoculated with goat's blood, in daily doses of 10 to 20 cubic centimeters. In the same order of ideas I have practiced upon a great number of tuberculosis cases, a direct transfusion of the carotid artery of a goat into the elbow vein of the patient. This transfusion, which requires great dexterity, is made by means of two trocars, joined by a fine rubber tube. This operation is less dangerous than an ordinary human transfusion, and it is followed by identical manifestations. In the space of a minute one transfuses in this manner, thanks to the arterial pressure of the animal, about 120 grammes of blood. One can prolong the transfusion to two minutes but not longer. Certainly one cannot pretend to transmit the relative tuberculous immunity of the animal to the man; the blood of the goat or of any other animal not possessing bacterial properties. But the transfusion of blood practiced directly from the animal to the man, remains, nevertheless, a very useful intervention in a great number of other cases. Professor Dominicus, of Naples, has recently published a work in which he gives account of over two hundred transfusions made according to my method—this experimenter substituted dogs for goats; more recently still, Dr. Vignerat, a Swiss, has treated his phthisics with serum taken from asses that have received one or two injections of tuberculine. As will be seen later, tuberculous immunity is not obtained in so little time and with such a small number of inoculations. This immunity has been sought by numbers of French experimenters and their patient researches have certainly been very useful for the solution of the problem. Messrs. Richet and Hericourt have inoculated dogs or asses at different times and during long periods with avicular bacillus and they *supported* very well this vaccination. At the end of several months they took the serum from a dog thus prepared and injected it into two phthisics who were cured by this treatment. Messrs. Babes and Broca followed a mixed method of vaccination. They commenced by treating their animals during several months with tuberculine. After this treatment, their subjects received increasing doses of dead bacillus, which had already served in the preparation of the tuberculine. They finished finally by inoculating the same animals with virulent tuberculine, at the same time injecting tuberculine and serum of tuberculized asses. These experiments showed that the serum of asses treated with tuberculine prevented the development of the local ulceration produced by inoculation with dead bacillus, and when the lision was already developed, the injections of serum cured it. Further, animals treated with tuberculine and then with dead bacillus, appeared to possess serum more efficacious than that of animals treated only with tuberculine. The simultaneous inoculation with this serum and with a virulent growth of Koch bacillus did not produce tuberculosis. The cure of infected animals is obtained by relatively large doses of serum. Small doses are insufficient and seem to aggravate the tuberculous infection. Finally tuberculous bacillus subjected *in vitro* to the prolonged action of anti-tuberculous serum (14 to 20 days) become inoffensive to guinea pigs. These results are evidently remarkable and of great importance.

Unfortunately animals support the injection of bacillus, even of dead bacillus, with difficulty, as experimenters have learned. A great number of their subjects succumbed from septicaemia and albuminuria. I have myself lost a great number of animals by this vaccination. In presence of this difficulty and after having acquainted myself with the researches of Behring and Kitasato upon Tetanus and Diphtheria, I published their process for tuberculous immunity, and I published my first communication at the Tuberculous Congress, held at Paris on July 27, 1893. I am particular about dates which are of importance, since other experimenters have published identical works without seeming to be aware of my researches, or at least they have pretended to have published before that date the means of exempting animals from tuberculosis by the employment of toxics. It is true that they would have some trouble in furnishing proofs. I have since made communications upon the same subject to the International (Medical) Congress at Rome, March, 1894; to the Society of Biology, March, 1896; and finally my researches have been the subject of a report by the commision for the control of serums, and presented to the Academy at its meeting of the ninth of June, 1896, by M. Straus, in the name of Messrs. Nocard and Netter. I shall speak later of the value and impartiality of the report. My researches have already lasted for over four years. From the beginning I have used the toxics naturally secreted by the microorganism. I have, however, since modified my inoculations. Formerly I heated my toxics at 60 degrees centigrade during an hour, then I injected a relatively small dose. I now inoculate with toxics passed through a Kitasato filter without heating them and continue my inoculations for a long period. I have thus arrived during these last two years at the most clear and scientific conclusions. In a general way, I have used in order to practice tuberculous immunity, very virulent toxics, naturally secretive and proceeding from the human bacillus of

Koch. I pass these bouillons with great aseptic precaution through a Kitasato filter, and I injected them during five or six months in variable doses, according to the size and susceptibility of the subject, into the animal that I wished to render refractory. In order to demonstrate the efficacity of my method I will class my experiments in five categories.

FIRST SERIES OF EXPERIMENTS.

During six months I injected almost every day pure toxics to a great number of animals which, fifteen days after the first inoculation, were subjected to an intravenous injection with the virulent bacillus of Koch. This injection was repeated three or four times later, but by a subcutaneous inoculation, always at a date as little remote as possible from the last injection of toxics. In each series of experiments, I subjected new and fresh subjects to identical operations. But in every case of "immunization" of rabbits, guinea pigs, dogs, or *goats*, the animals first subjected to the injection of toxics, remain indifferent to the infection, while the others succumbed to tuberculosis.

SECOND SERIES OF EXPERIMENTS.

With the serum of those animals upon which immunity had been first conferred, I injected fresh animals with 50 to 100 cubic centimeters of this serum-vaccine. Some days after the last injections of serum, I inoculated these same animals with a virulent growth of the bacillus of Koch. Again the animals vaccinated with the serum of animals upon which immunity had been conferred, resisted the infection and survived. On the contrary, fresh animals inoculated only with the same growth of Koch bacillus, succumbed to phthisis.

THIRD SERIES OF EXPERIMENTS.

I inoculated rabbits and guinea pigs with tuberculous bacillus and fifteen days after this injection I treated them with small quantities of serum from animals upon which immunity had been first conferred. I injected the guinea pigs with a half cubic centimeter of serum daily; the rabbits received a cubic centimeter of the same liquid daily, and I treated them in this manner during three months. A great number of these animals, almost three-fourths, resisted; some of them succumbed to cachexy, but without specific localization, and finally, in a small number I observed generalized tuberculous granulations.

FOURTH SERIES OF EXPERIMENTS.

I injected under the skin of a large number of rabbits, simultaneously, 10 cubic centimeters of serum from an animal upon which immunity had been conferred, *and* one-half cubic centimeter of a virulent growth of Koch bacillus. The swelling resulting from this mixture was a long time in disappearing. All the animals that were subjected to the experiment emaciated considerably, abscesses formed on some near the inoculations, often followed by cachexy and death; but the greater part of the animals were convalescent, and at the end of one month the swelling disappeared and after three or four months they recovered their health.

FIFTH SERIES OF EXPERIMENTS.

I grafted some Koch bacillus upon some serum of an animal upon which immunity had been conferred and upon some ordinary rabbit serum. While the first grafting remains sterile, the second developed admirably. This demonstration *in vitro* is very conclusive. All these experiments which I have resumed and which are easy to repeat, were renewed a great number of times. They demonstrated abundantly that it is possible to confer immunity from tuberculosis upon animals. I do not doubt that one could obtain the same result with old growths of avicular bacillus (method of Richet and Haricourt), with alternate injections of bacillus and tuberculine (method of Bates and Broca) or with inoculations of tuberculous products (method of Redon and Chenot) or with serum taken from tuberculous animals (method of Cemino). But all of these processes act, in my opinion, by means of the toxics injected into the animal. I do not wish to dwell upon the point, so I will return to my method of conferring immunity upon animals.

In order to confer tuberculous immunity upon a *goat*, for example, I proceed in the following manner:

I commence always by assuring myself with the aid of tuberculine that my animals are not tuberculous. I then inject daily one-half cubic centimeter of filtered toxic (our toxics come from veal bouillon) treated with 5 per 100 of glycerine. During fifteen days these injections are practiced in the subcutaneous cellular tissues. If the temperature remains normal and the general state of the animal continues satisfactory, I increase the dose of toxics, and inject *one* cubic centimeter during fifteen days. I then inoculate two centimeters daily during one month, three cubic centimeters the third month and that arrive gradually to a daily dose of *five* cubic centimeters, which should not be passed in the case of small animals. It is necessary to watch the subject carefully and cease the inoculations immediately when the animals appear to suffer from them. After several days of rest one can recommense the injections. At the end of five months of consecutive inoculations, one can bleed the animal and submit the serum to the double experiment of injection with Koch bacillus and that of grafting (experiments of the fourth and fifth series). One tests after a month the degree of antitoxic strength of this serum, of which the action can still be augmented ulteriorly by new injections of toxics. I have injected thus into goats up to 1,200 centimeters toxics. The dose would be much larger for asses or horses. The injection of serum taken from these animals upon which immunity has been conferred is absolutely inoffensive when the operation is performed with care upon another animal. I have several times injected a rabbit with *ten* cubic centimeters without causing it the least inconvenience. I have also practiced a great number of injections upon men and have only observed the accidents common to all inoculations of serum—pruritus, erythemia, urticaria or polymorphic eruptions. As for the action upon the progress of common phthisis exercised by the injection of serum, I do not wish as yet to give any definite opinion. In view of the inoffensive character of the treatment I have applied it to a great number of patients. Several of my colleagues have also followed this method and have already registered a large number of encouraging observations. When I shall have had the time to co-ordinate all these documents, when I shall have been able to group and classify according to the degree of the malady according to the variety, the form, and the gravity, according also to the number of injections of serum and the date when the last inoculation may have been practiced, then, only, will I be able to bring an useful statistic of the results obtained upon the field of clinical knowledge. Meanwhile, I will briefly explain how my colleagues and myself have applied serum therapy to phthisis. After having forbidden to the patient any medicine whatever, and several days after the last absorption of medicine we inoculate three cubic centimeters of serum every two or three days in the scapular region. These inoculations can be increased or diminished in number and prolonged during three or four months without any inconvenience when practiced with aseptic precautions. After fifty or sixty inoculations, which always produce an amelioration, which may be called a tuberculous *truce*, we subject the patient to an air case in the country or in a sanitarium in order to maintain the amelioration and put the organs in a good condition to resist the new attacks of the numerous Koch bacillus which surrounds us. The results which my colleagues and myself have obtained are excellent in a great number of cases. Of course one must choose one's patients and not apply this method indifferently. In the first and second degree, when the general condition is satisfactory, even during high fever, one must not fear to practice the serum therapy, and one has a great chance of eradicating the malady. At the period of cavernous phthisis, one has still a great chance of success, especially when the malady is localized and in a phthisic of good condition. But one can expect nothing from a cachectic and it is principally these desperate cases who apply to us. It is the same with acute phthisics, and I have not yet been able to effect a single cure. It is true that I have had occasion to treat but a small number of these cases and always at the last stage of bacillary intoxication. On the other hand, I have treated forms of surgical tuberculosis (tuberculose chirurgicale), which I have ceded rapidly to serum therapy in conjunction with local antiseptics.

Dr. Bernheim then gives an account of the experiments of Dr. Brinet of Marseilles, and concludes as follows:

1. Anti-tuberculous serum is absolutely inoffensive.

2. It has a depressing effect upon fever.
3. It modifies local phenomena.
4. It exercises a positive influence upon the bacillus contained in the saliva and causes it to diminish and disappear.
5. It causes a notable increase in the weight of the body.
6. It exercises an useful action in 91.75 per cent. of the cases treated, more or less according to gravity.
7. It determines the care and aids the case in almost every case of circumscribed tuberculosis.
8. It has operated cures even in cavernous cases (cavitaires).
9. One can use it advantageously in all forms of tuberculosis.

As can be seen, these conclusions have a great therapeutical precision.

The considerable number of cases treated by Dr. Maragliano, is not surprising. The Italian Government encouraged these researches, while in France. two members of the scientific commission stopped these experiments, in issuing an unfavorable conclusion regarding my antituberculous serum. Of these two members, one M. Nocard, is attached to the Pasteur Institute and seeks to monopolize the very lucrative exploitation of serum in France. M. Netter, the other, a young assistant, could refuse nothing to his all-powerful professor.

But I declare that the report of this commission was incomplete and inexact upon several points, as my letter of protest to the Academy of Medicine, of the 23d of June clearly shows. These judges have emitted a false opinion, as the future will prove. It suffices only to read the report in order to form an opinion. Messrs. Nocard and Netter state that the simultaneous injection of serum taken from an animal upon which immunity had been conferred and Koch bacillus did not prevent two rabbits and a guinea pig from dying of tuberculosis; of other experimental proof they say nothing. But these official investigations took an insufficient quantity of serum from my laboratory to perform the experiments. Judge not of the impartiality of their report. Neither the official inquest, nor the desire to bury communication in order that they may repeat my experiments and present them later in another form, will prevent me from pursuing these researches which have already been so fruitful, which have been confirmed by other experimenters and which are exact in their smallest details.

Referring to the use of goat's milk the Consul General reports that:

"I cannot discover that goat's milk is used for clinical purposes in France. It is, however, sometimes given to sickly children, when it is found that cow's milk and the various prepared milks do not agree with them.

"Goat's milk is very rich in cream and nutritious substances and there *is* a popular belief that it is a useful article of diet in pulmonic and anemic complaints. It is served at the domicile by troops of goats which are milked on the spot, as it is also believed that in order that it may be efficacious it must be drunk fresh from the animal."

(Signed) COWDY,
U. S. Consul General, France.*

In Holland, Belgium, Germany, and in other countries of Europe goat's milk, butter and cheese are valued as articles of food, while in Africa, South America and Central America the goat is most highly prized. In every land the remarkable health of this animal is well nigh proverbial.

THE CAUSATION OF EPILEPSY.

BY A. M. BLEILE, M.D., COLUMBUS, OHIO.

I SHOULD define epilepsy as that condition marked by loss of consciousness, convulsions at first tonic, then clonic, and such attacks recurring in the same individual with greater or lesser frequency.

I wish here to treat more especially of the so-called idiopathic form rather than of the reflex and traumatic.

Pathological Anatomy.—It is fairly well conceded now, that, at least by the means at our command, no lesions are found post-mortem which could be held causative of the attacks or explanatory of the condition. It is true that Bevan Lewis thinks that there are alterations in the nerve cells of cortex, but this observation needs substantiation. Other observers have set up as the pathological causative condition a sclerosis of the neuroglia and of the arterioles in general. I can say from my own observation that such condition is not invariably found in epileptics, and in fact we never found it in cases of more recent origin, so that it would seem that this sclerosis is the result of the intense vascular changes occurring during the attack, rather than their cause.

Pathogenesis of Attack.—The attack, we hold, is due to an anemia of the cerebral cortex, brought on by an arterial constriction due to either hyper-irritability of vaso-motor centers, or of the cortical motor centers, or (and this is true in a majority of the cases) of both. Such hyper-irritability may be congenital or acquired, and the immediate cause acting on these centers is a poison or ptomaine, generated probably in the intestinal canal, *certainly* within the body of the patient himself; that is, we have to do with a case of auto-infection. In support of the view of cerebral anemia as the cause of the attack may be cited experiments on animals. It is true that vascular constriction of the brain, as brought on in rabbits, cats and dogs by stimulation of the cervical-sympathetic, generally fails to bring on an epileptic seizure, but if such animals are weakened by a copious blood-letting or other means, convulsions are always produced in this wise.

A similar result follows sudden interruption of the blood flow, as by compression of the carotid arteries.

In the *British Medical Journal* is quoted an interesting case illustrative of this view of cerebral anemia as causative of attacks. In a male adult who was subject to frequent and severe attacks of epistaxis, venesection was resorted to during such a hemorrhage, when suddenly there came an epileptic attack, followed by deep coma. Next day the epileptic seizure was repeated and the patient remained an epileptic all his life.

I find two other cases recorded where venesection practiced in the course of cerebral disease—cancer in one case, and tumor in the other—caused attacks of epilepsy.

In man we know the attacks are always ushered in by pallor; that is, anemia of the face, and, as has been observed in a few cases, constriction of the retinal vessels, and therefore, by inference, of the cerebral arterioles. Further, it is known that amyl nitrite, which can only act by dilating the blood vessels, by relieving anemia, will often abort an oncoming attack of epilepsy. Then, it has been observed that bleeding of wounds will be suddenly arrested at the onset of an epileptic

* This report is published for the *first time* in the MEDICAL TIMES.

seizure. Nor is it easy to explain the loss of consciousness except by the theory of cerebral anemia.

That the trouble is cortical is attested, among many other arguments, by the fact, first, that by faradization of the cortical motor centers we can produce epileptic attacks in animals, and second, that epilepsy cannot be produced in animals in which such cortical centers have been removed.

Bartholow, in a man, produced an epileptic attack by faradization of the posterior central convolutions.

It may be noted here that one attack predisposes to another. Animals in whom an attack has been experimentally induced, yield more readily in succeeding experiments; that is, they respond to weaker stimuli. And I recall here one case in man, caused by epistaxis, already cited. That there is a predisposition, which may be congenital or which may be acquired, permanently or temporarily, through depressing agencies of various kinds, seems so, because cortical stimulations by themselves and in the vast majority of cases are rarely strong enough to produce epileptic convulsions. If there were no predisposition, the causes which are acting in many persons would give us a far greater number of epileptics than we actually have. That such predisposition may be acquired is evident from the animal experiments already cited, and by a few observations made on the human subject.

In support of the proposition that the immediate cause of the attacks lies in the absorption of a ptomaine, probably formed in the intestinal canal, the following may be said: It is noted, in the first place, that in the greater majority of cases the attacks are preceded by gastric and intestinal disturbances. In fact, this clinical observation, which was given to me by Dr. Rutter, forms the basis of a series of observations undertaken by myself. We showed that the urine passed by patients after an attack is markedly increased in its toxicity, as tested by intravenous injection in animals, and that animals so treated show convulsions the precise counterpart of an epileptic seizure in man. We could further extract from such urine substance, though not in a pure state, which, when dissolved in water and injected subcutaneously, give the same results. From normal urine no such substance could be obtained. This proves conclusively that either a ptomaine or toxalbumin is thrown off by the kidneys in persons suffering from idiopathic epilepsy.

On theoretical grounds, which I do not care to discuss here further, it seems probable that the digestive disturbances so often noted give rise to an excessive formation of ptomaines in the intestinal tract. We have had no opportunity to experiment with the contents of the small intestine, experimental difficulties being too great here, but from the feces, substances can be extraced, which are identical in their effect on animals with those extracted from the urine. It is only fair to say, however, that the same substance can be obtained from normal feces; whether in smaller amounts or not, I am not prepared to say.

Where my own observations have been alluded to, I refer to work carried on in the State Hospital for Epileptics at Gallipolis while I was connected with that institution last summer and the summer preceding.

Said in closing discussion:

I omitted the theory of discharge as a theory of epilepsy. When we say the nerve cells discharge, we state something we know nothing about as an explanation for something else we know nothing about. We are not sure that the cells are defective. Some of these epileptics are as bright as anybody. They will respond to stimuli and are in every way more irritable and probably more ready to respond to stimulation than other people. In taking the view that it is an inhibition, we would have to come down to this, that it is the higher cortical centers that inhibit the lower, and that would bring us to the old view that epilepsy is of bulbar origin and not cortical. We cannot get the full picture of epilepsy from the bulb. In animals we can get epilepsy from stimulation of the cortical centers, and we cannot get it if we ablate those centers. For that reason I do not hold the theory of inhibition of the higher centers. The explosion, if we wish to use that term, is in the nerve cells that are directly affected by the anemia. Not every case of anemia shows epilepsy. There must in some way be produced a hyper-irritability. We have plenty of carious teeth and intestinal disturbances, etc., which are undoubtedly a predisposing factor in epilepsy, yet they need a brain with ganglionic cells in a particulary loose state of equilibrium. Albumin in the urine does not exist in the majority of cases after an attack. We have examined quite a number of cases and in a small number only have we found albumin. A number of authors agree on this point, that albumin is not always found in the urine after an epileptic attack. That the urine should contain the toxins after the discharge is likely, because the toxins are contained in the body at the time of the attack and would soon appear in the urine. As to whether toxalbumins are found in normal urine, that is a question. It is stated by some that toxalbumin is never found in normal urine, or when it is found in the normal urine the patient is suffering from catarrh or something else. We can get from the urine after epilepsy a crystalline body, which will invariably produce epilepsy. From normal urine we get a body, sometimes fatal to animals, but fatal in the same dose after a much longer time and without the production of the convulsions. Urea will not produce epilepsy. It is not a very poisonous substance. Large doses may be given without producing special symptoms, beyond polyuria. Uric acid will not produce such bad symptoms, either. The uric acid percentage is not raised in epileptics before or after the attacks. In our patients it was below that which Haig gives. That is due to the fact that they received less meat diet than others. I injected into rabbits large doses of uric acid, and the person who was assisting me in the matter took considerable interest in the subject and voluntarily took on several days doses of uric acid. Although he before had had epilepsy, he had none after taking the uric acid.

He said (but this I would rather refer to a self-deception cure) that he felt better after taking the uric acid.

SHALL WE OPERATE THROUGH THE UPPER OR LOWER CANALICULUS?

By S. C. Ayres, M. D., Cincinnati, Ohio.

THERE seems to be quite a diversity of opinion among writers as to which canaliculus it is better to open in operations for dacryocystoblennorrhea and strictures of the nasal duct. It is a question with two sides to it, and authors seem to have paired themselves in favor of the upper or lower along lines apparently dictated by their experience. Is the one as good as the other? If so, the question is settled in favor of both and honors are easy. Is one better than the other one? If so, which one? If one is better than the other, why not know it and settle the question in favor of the better one?

Stellwag says: "To gain entrance to the sac the lower canaliculus is usually slit up. Some, however, prefer the upper. In favor of the latter is the fact that continued probing, as is necessary in the treatment of lachrymal blennorrhea, by great tension of the inner angle, readily causes cicatricial closure of the inner end of the tube, and it is *most important* to preserve the permeability of the *lower canaliculus* as this acts the principal part in the conduction of tears."

If this be true, why should so skillful an operator overlook this fact and slit the lower canaliculus and illustrate his work accordingly? We give a few specimens from some of the text-books. Meyer: We begin by opening the inferior lachrymal passage. Schmidt-Rempler: When employing Bowman's probes it is immaterial whether the upper or the lower canaliculus is used. Schweiger: The lower canaliculus. Noyes: My preference is for the lower. Brudinell, Carter, Juler, Swansey, Berry and Roosa the lower. De Schweinitz describes the operation through the lower, but says either can be used. Norris and Oliver, either upper or lower, but illustrate operation through the lower. Fuchs says that the operation can be performed through either upper or lower, but states in sounding through the lower canaliculus the sound must be tilted so as to be turned through *more* than a right angle, but the canaliculus is wider.

Wells says: "I am in the habit of dividing the upper canaliculus with Weber's knife and passing the latter into the sac and freely incising the neck." De Wecker says: "Any treatment adopted should disturb the physiological functions of the tear passages as little as possible. I always prefer to commence with the superior canaliculus, which plays an important part physiologically."

Mr. W. Spencer Watson, in a brochure on the "Anatomy and Diseases of the Lachrymal Passages," says: "In view of the fact that the tears gravitate toward the lower oculo-palpebral sinus, the part performed by the lower punctum is much more important than that of its fellow in the upper lid. Any abnormality of the lower punctum affects the passages of the tears to a much greater extent than similar disturbance of the upper one, and it therefore follows that the consideration of affections of the lower punctum is predominant and its treatment more essential." A few pages further on, in speaking of the operation for chronic dacryocystitis, he says, "The lower canaliculus should be laid open by means of the Weber's or Bowman's knife." The statement about the functional value of the lower punctum and his method of operation appear inconsistent. If "any abnormality of the lower punctum affects the passages of the tears to a much greater extent than a similar disturbance of the upper one," why does he produce this abnormality by slitting the lower canaliculus? A canaliculus that has been slit is never absolutely normal again even if it performs its functions in a quite satisfactory manner.

The mass of authority among the book writers is in favor of slitting the lower canaliculus for strictures of the nasal duct and lachrymal blennorrhea. The question as to which is the better one to open is scarcely discussed at all by the authors. It seems to be a settled question in favor of the lower one. It seems to the writer that the question is open to discussion with some strong arguments in favor of slitting the upper canaliculus.

Fig. 1. After Gray, showing the anatomy of the tear-sac.

The lower canaliculus is shorter and has a larger caliber than the upper one. It is more easily probed and can be incised with much less difficulty than the upper one. In making the ordinary stricture operation, after slitting the canaliculus the probe is introduced until it comes in contact with the bony wall of the tear sac and it is then deviated at least 90 degrees and sometimes more, before it can be passed down into the duct. This necessarily causes considerable twisting of the tissues around the probe, especially if a Bowman's probe No. 6 or No. 8 is used. This makes it difficult to pass the probe and increases the pain. If in order to admit the probe the mouth of the sac is notched below it is apt to be followed by cicatrization afterwards, which will interfere with its caliber. But the most important reason is that the lower canaliculus is more important for drainage than the upper one.

It is larger than the upper one because it has more work to do. The constant winking of the upper lid sweeps the mucus on the surface of the cornea directly into the mouth of the lower canal. Let the lower canaliculus be obstructed or everted, and how quickly does the eye suffer.

The same effects would not follow a similar disturbance in the upper canaliculus. In the operation through the upper punctum the slitting of the canaliculus is probably slightly more difficult than that of the lower. The tubercle of the punctum is not so prominent and when the lid is on the stretch, by drawing it tense against the upper rim of the orbit, it is not so firm as the lower one when it is drawn tightly over the lower rim of the orbit. But this difference is insignincant and should not be considered in comparison with its advantages. When the upper lid is drawn tense for the purpose of slitting the canaliculus it makes about an angle of 45 degrees with the tear duct. So that the probe in entering the tear sac does not have to be turned more than 45 degrees to enable the operator to push it down into the duct. It does not have to be raised more than half as far as when the operation is made through the lower canal. Another advantage is that there is not nearly so much twisting of the tissues around the probe as in the lower operation, and the probe glides down more smoothly.

In addition to this, when it is desirable to notch the mouth of the tear sac the knife, as soon as it has slit the canaliculus, can be elevated and pushed directly down into the sac and its neck enlarged before the knife is withdrawn. This will facilitate the passage of the probe very much.

FIG. 2. After Norris and Oliver, showing the sweep of the probe when introduced into the lower canaliculus.

The secret of an easy and successful tear sac operation depends upon having an opening into it sufficiently large to allow a good sized probe to be introduced without much twisting and compression of the surrrounding tissues.

Treatment of the tear sac by injections is easier through the upper than the lower canaliculus. The fluids injected pass more readily down to the nose and also accumulations in the sac can be more easily pressed out by the patient.

FIG. 3. Showing the probe introduced into the upper canaliculus. The sweep of the probe is only half as great as in Fig. 2, and the twisting of the tissues relatively less.

The question of the size of the probe to be used in the operation is also one on which there is much diversity of opinion. Some authors never recommend a probe larger than Bowman's No. 3 or No. 4, others begin with No. 6, and again there are advocates of large probes at first, increasing to No. 16. The introduction of a small probe, No. 3 or No. 4, is more difficult in the ordinary run of cases as well as more dangerous than No. 6 or No. 8. This statement may seem paradoxical, but it is practically true. A small probe is liable to pierce the mucous membrane and make a false passage. This is especially the case when operating on an acutely inflamed tear sac in the suppurative stage. The larger probe, and especially the olive pointed probe, separates the mucous membrane as it is pushed down into the lumen of the bony portion of the duct and thus is less liable to make a false passage. My preference is decidedly for the olive pointed probe in the first treatment. It is easier to introduce than the Bowman probe for the reason just stated. Later on, when one wants to dilate the duct and to get the effects of the caliber of the probe by leaving it in for a few minutes, the Bowman probe is better. I generally begin with a No. 8 olive pointed. If I cannot use this, I try a smaller one. If I can pass it, I at once try to pass a No. 10, and rarely ever use one larger.

Alcohol as a Disinfectant.—Epstein states that: 1. Absolute alcohol has no disinfecting power, but acquires such when diluted. 2. Fifty per cent. alcohol has the most intense disinfecting power, which decreases with higher degrees of dilution or concentration. 3. Antiseptics possessing germicidal properties when dissolved in watery media, lose their power, to a certain extent, when dissolved in alcohol. Bichlorid, carbolic acid, thymol, and lysol, however, are most active when dissolved in 50 per cent. alcohol.

REPORT OF TWO CASES OF INVERSION OF THE UTERUS. ALSO TWO CASES OF PUERPERAL SEPTICEMIA, TREATED BY LARGE HYPODERMIC INJECTIONS OF CREOSOTE.

By George F. Jenkins, M.D., Keokuk, Iowa.

INVERSION of the uterus is sufficiently infrequent to be of interest to any general practitioner, therefore I ask the indulgence of this Society while I report briefly two cases that have come under my observation.

While this is one of the most infrequent it is also one of the most serious accidents that can befall the lying-in woman. It has been defined, the turning of the uterus upside down and inside out. It may be complete or incomplete and may occur during the third stage of labor, or in some rare instances several hours, or days, after the delivery of the placenta. The cases I have to report were of the complete variety, and both occurred during labor.

There have been numerous causes given for this serious complication of delivery. Irregular contractions and inertia of the uterus are frequent etiological factors. The attachment of the placenta to the fundus is a predisposing cause. A very short cord, so there is strong traction during the delivery of the child; pressure upon the fundus when the organ is relaxed; pulling upon the cord immediately after delivery, before firm contraction occurs, especially if the placenta is attached to the fundus, are some of the exciting causes.

According to some authorities the accident occurs once in 140,000 deliveries—others state that it is of much more frequent occurrence, once in about 2,000 labors.

I think the complication happens oftener than shown by statistics. Many cases are not reported, and some are never discovered.

The symptoms of inversion are sudden, pronounced and alarming hemorrhage, pain, restlessness, pallor of countenance, syncope, a quick, weak or nil pulse, etc.

The uterus may protrude from the vagina and present the appearance of a large pyroform, bloody, muscular body between the thighs, or it may only fill and distend the vagina and not be forced externally; in these cases the blood gushes from the vulva, and upon passing the fingers you feel the fundus of the uterus with the placenta partially detached. If you grasp this mass with the right hand and place the left hand on the hypogastric regions through the relaxed abdominal walls, you can readily feel and outline the upturned os. If you carefully free this ring and crowd your fingers into it, while at the same time you move and manipulate the body of the organ with the right hand, in the vagina, you become at once absolutely convinced as to the diagnosis of the case.

After having had a large obstetric practice for more than twenty-eight years, I saw my first case of inversion of the uterus. I was called by telephone to a neighboring town in Illinois, in consultation with Dr. J. I arrived about an hour and a half after delivery. The doctor met me at the door and informed me that he had a case of inverted uterus; that he had detached the placenta and worked till he was all tired out, but had failed to turn it back to its normal condition (in my opinion he failed because he tried to force the part up first that came down last).

When I went into the lying-in room I found the woman pallid, fainting and pulseless, from shock and loss of blood. I immediately removed my coat, bared my arms and washed them thoroughly in a warm bichloride solution, then after lubricating with vaseline, I examined the patient and found all the physical signs of complete inversion of the uterus. I had never seen a case, but I knew what had to be done, and done quickly, if I saved her life.

I first grasped the uterus with my right hand and forced it back into the vagina—our patient was so exhausted and relaxed from loss of blood that we did not give chloroform—then with my left hand on the hypogastric region, embracing the upturned patulous os, so as to steady it and keep it from retreating before the pressure, I commenced to indent the fundus with the tips of my fingers, first with two fingers and then with all of them and the thumb made into a cone. I firmly, but carefully and cautiously forced the fundus up with my right hand, while with the left I made counter pressure on the ring-like neck above, carrying my hand up through the os and into the normal cavity of the uterus.

The doctor gave her ergot and strychnia hypodermically, and as the uterus began to contract I grasped it laterally with my left hand externally, so as to prevent re-inversion, while I slowly withdrew my hand from the uterus. The uterus was thoroughly irrigated with a hot bichloride solution and then with sterilized water. She was given a small dose of morphia and atropine hypodermically, and placed upon tonics and nutritious diet. She was very anemic and weak, but made an uninterrupted and perfect recovery.

Strange it may seem that within a year from the time the above case came under treatment, I should have another case of inversion of the uterus, and this one in my own practice.

Mrs. J., a primipara, was in labor a part of the day and all night; pains regular, but seemed inefficient and as though something was holding the child back. Finally when the os was well dilated, not knowing what impeded labor, but fearing to wait longer, I applied the forceps, with the woman well under the influence of chloroform. I delivered a living boy without much difficulty. I found the funis very short, but tied, and cut it as usual and gave the nurse the child.

While waiting a few moments for uterine contractions to cause the expulsion of the placenta, I noticed the pulse began to get weak and rapid, the countenance pale, the blood to gush and symptoms of syncope to develop. Placing my hand on the hypogastric region and failing to find the uterine tumor, I attempted to pass the fingers of the right hand into the vagina, when they came in contact with the inverted uterus and partially detached placenta, covering the fundus, from which hung the umbilical cord, only eight

inches long. I immediately called the nurse and told her to give chloroform, so I could pass my hand, turn out the clots and stop the hemorrhage. After washing my hands in an antiseptic solution, and thoroughly oiling them, I proceeded to turn the uterus back to its normal condition, pursuing essentially the same method I used so successfully in my first case. The operation was so easily and quickly performed that the nurse does not suspect even to this day that there was anything very serious the matter with the woman. The uterus was washed out with a bichloride solution and then with hot sterilized water, and notwithstanding she had some mild septic symptoms for a few days, her recovery was entirely satisfactory and complete. The cause of the inversion in this case was the attachment of the placenta to the fundus, and the abnormally short cord, together with the thorough relaxation of the uterus by chloroform. The fundus was pulled down by the cord during the traction with the forceps—the cord being so short that the child could not be delivered in any other way unless it had been possible to know the condition and cut the cord. I deceived the nurse and members of the family as to the nature of the accident, for the reason that I did not wish to be blamed for the development of a serious complication, which could in no way have been prevented by the utmost care and skill.

From my experience with these two cases, I think that where complete inversion of the uterus, occurring during the third stage of labor, is recognized at once, and properly and promptly restored to its normal condition, recovery should follow. Antiseptics should always be used and after the whole uterus is forced up into the vagina, the fundus should always be the first part forced back to its normal condition, and then other parts of the organ naturally and easily follow.

TWO CASES OF PUERPERAL SEPTICEMIA TREATED BY HYPODERMIC INJECTIONS OF CREOSOTE.

Having read an extract in one of the journals stating that Drs. Cologne and Mehrtens, of Germany, very highly recommended hypodermic injections of creoste in puerperal septicemia, I determined to try the treatment upon the first severe case presenting itself. I was very soon called to attend the following rather unusual case:

Mrs. T., aged thirty-eight and mother of ten children, a fleshy woman with a very pendulous abdomen. From frequent pregnancies and hard work without any support, the muscles had lost their strength and yielded to a greater extent than I ever saw before. I had not seen the woman during her pregnancy, and when her husband called to consult me, it was in consequence of her not feeling the fetal movements any more. He said she had no pain, but that she felt worried because she was past time and all movements had ceased. I told him I presumed she was mistaken about her time, but if he wished, I would see her. He said he would consult her first. I heard nothing more about the case for about a week, when I was called and found her lying in bed with a pulse of 120 and temperature 102 degrees. She was lying on her side, and the fundus of the uterus resting on her knees—all support from the abdominal muscles being removed, the uterus had dropped forward and downward. The pubes acted as a fulcrum and all the ligaments stretched to such an extent that the os was lifted into the abdominal cavity and pointed upward and backward. The child being evidently dead, a fetid discharge from the vagina, the abnormal position of the uterus and the general septic symptoms, caused me to say that she must be delivered at once, that normal labor would never come on with the uterus hanging down in that way. They said I should do what I thought best. She already had puerperal septicemia, as evidenced by the quick pulse, elevated temperature and other symptoms. I immediately irrigated the vagina with a warm bichloride solution, placed her on her back, and with my hands under the fundus, lifted it upward and into the normal position and had it held there by the nurse, while I, after another antiseptic irrigation, proceeded to deliver, by manual dilation of the os and the subsequent application of the forceps. She was very soon delivered of a large boy, that had been carried over time, and had evidently been dead about ten days.

The uterus was immediately irrigated with a hot bichloride solution, followed by sterilized hot water. She suffered from great pain, had a pulse of 140, temperature 103 degrees, with vomiting and great exhaustion. I gave her a small dose of morphia and atropine hypodermically, also a large dose of digitaline and strychnia, by the same method. These remedies were given by the nurse every three hours, alternately, during the night. When I saw her in the morning the abdomen was very tympanite and tender, temperature 103½ degrees, and other symptoms greatly aggravated. I washed out the uterus again with the antiseptic solution and sterilized water, and continued to do so night and morning.

All the symptoms being very unfavorable, I concluded to try creosote hypodermically, in large doses. I went to the drug store and got the following prescription: Beechwood creosote, camphorated oil, aa ℥i.; Sig. Shake well and give twenty drops hypodermically, in the thigh, every four hours.

This was given faithfully for several days, and seemed to lower temperature, control vomiting, relieve distention of abdomen, and stop fetor of the lochia.

She made a rapid and complete recovery. Her last five children have been dead born, and from what I could learn, death in each case was caused by the abnormal position of the uterus during the later months of pregnancy. I have tried the hypodermic injections of large doses of creosote in one other very severe case of puerperal septicemia since, with the same happy effect. Of course, I washed out the uterus and gave other orthodox treatment in both cases, but I believe that creosote was very largely instrumental in saving the lives of both patients, and without such treatment one of them certainly would have died.

FEEDING THE BABY.

A NEW DEVICE FOR A NURSING BOTTLE.

WHATEVER tends to decrease the mortality of infants may well be considered a boon to humanity. If we are careful of our babies we will necessarily insure a healthy increase in our population and prevent many ills in later life, which result from inattention to sanitary principles during the infantile period. Conscious of this fact, several nationalties, particularly the French, have been taking active steps to stop depopulation by reducing infant mortality. Through the "Roussel law," every child under two years of age, placed out to nurse, is constantly under the eye of the law. Sterilized milk is supplied at the public dispensaries and "pouponieres" are established, where infants are looked after and food furnished them. M. Henri de Rothschild, one of the greatest philanthropists in France, has recently given to the world an exhaustive treatise of over seven hundred pages on this important subject, in which he claims that the feeding question is at the root of the great mortality of infants. But of almost equal importance to the health of the child is the receptacle from which it takes its nourishment, viz.: the nursing bottle. The ordinary bottle is open to the objection that the child, in sucking the nipple, sometimes pulls it off the neck of the bottle and either chokes itself to death or deluges itself with the contents, thus producing serious inconvenience, if not pneumonia, from the wet clothes which may remain for some time without the knowledge of either nurse or mother. Besides this, there is always the certainty of the

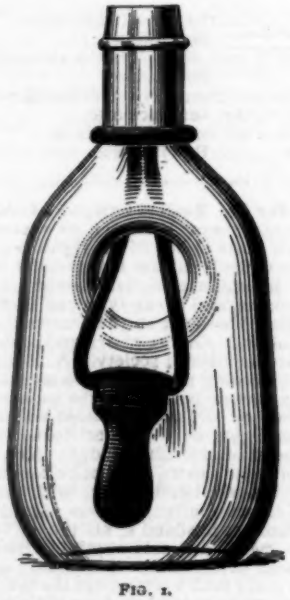


FIG. 1.

child receiving into its stomach large quantities of air, causing colic and other conditions, serious, if not dangerous, to the tender constitution of an infant. A bottle, furnished with a long rubber tube, which claims to offset this difficulty, has been for many years in use; but it has been

FIG 2.

justly condemned in the French courts, on the appeal of the medical authorities, for sanitary reasons that must be apparent to every physician. The example has been followed by some of our local legislatures on the grounds that it is a most fecund breeder of disease. It is an impossibility to keep the tube clean; and therefore, the child draws impurities into the mouth, which, on account of its warmth and moisture, is one of the most prolific parts of the human anatomy for the propagation of every species of microbe. The attention of the writer has been called to a bottle recently invented, which overcomes all the above objections, and, on account of its many advantages, promises to supersede anything of the kind now used in the nursery. It is most simple in its construction. The accompanying illustrations fully explain its operation and use.

Figure 1 is a perspective view, showing the bottle with nipple unadjusted.

As will be seen from the cut, the nipple is practically a part of the bottle, but can be removed for the purpose of cleansing or supplying a new one. The ordinary nipple has formed integrally therewith two cords attached to a ring which is placed over the neck of the bottle. The suspended nipple is then passed through the circular opening, carried up and adjusted in the ordinary manner over the flange on the neck.

Fig 2 shows bottle with nipple adjusted. In this device the aperture through the bottle forms a means of so securing the nipple, that while it can be detached by an intelligently directed force,

it will be an impossibility for a child to remove or swallow it. This aperture, at the same time, causes to be formed, on either side of the body of the bottle, two channels, which, from their contracted proportions, are always filled with milk when the bottle is slightly off the horizontal position in which it is usually held in feeding a child. This reduces to the minimum the quantity of air taken into the stomach, as the neck of the bottle is kept constantly full. Moreover, the bottle can always be cleaned without difficulty. Owing to its peculiar shape, it is very easy to handle, as the tubular channels are of such a size that they can be readily grasped by the hands of a small child. The writer gladly welcomes into the field of pediatrics this nursing bottle, because it has many advantages over any in use up to the present time, and will, undoubtedly, prove of invaluable assistance to the physician in cases where, from whatever cause, artificial feeding may be deemed necessary.

SINUS OR FISTULA FOLLOWING ABDOMINAL OPERATION.

By A. Morgan Cartledge, M.D.
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Sinuses and fistulae following abdominal operations are not as frequent now as they were a few years ago. At least I do not see as many as I did in my earlier operations. There must be a wide distinction made between sinus and fistula. In cases of simple sinus the prognosis is usually good. We ought to wait and give them ample time to close spontaneously before resorting to operative interference. I have recently had three cases of sinus following operations of other surgeons, caused probably by an infected ligature, and in two cases a cure resulted by simply keeping the outer wound enlarged by dilatation and currettement down to the fascia. It is contraction of the fascia which oftentimes confines pus in these cases, inducing a condition of sepsis, and by keeping the external wound dilated down to the fascia, the ligature in two cases worked its way out in two months. In the third case the sinus had existed much longer, probably six or eight months, having followed an operation for pyosalpinx. In this case I went after the ligature, the sinus having been curetted and dilated with complete failure by one or two gentlemen. I found the most fantastic arrangement that I have ever seen in the operation for removal of the ligature; the intestines were matted together, the ligature was embedded in a mass of adhesions and would never have been discharged spontaneously; the adhesions were separated, the bowel straightened, the ligature removed, and the patient made a nice recovery.

As to the question of fecal fistula: My experience has been that the majority of fecal fistulae following abdominal operations get well. Except in cases where the fistula occurs in the upper part of the intestinal tract, plenty of time should be allowed. Fistula following operations for appendicitis—fistula of the colon—almost all get well spontaneously. I take it that 95 per cent. of them recover without subsequent operation. I have had six such cases in my own practice, and they have all gotten well without operation.

Most cases where there is a fistula combined with a suppurating sinus with a small amount of fecal matter coming from the bottom of the pelvis, follow wounds of the intestine from the separation of adhesions in inflammatory disease of the pelvic structures. These are the most formidable cases that present themselves for treatment. There is simply nothing comparable to them in the whole domain of surgery. I have operated upon four such cases. One was following hysterectomy, where the ligature came away through the vagina, and I afterward had to go through the abdomen to effect a cure. In another case an operation was performed which did not cure the condition; there was a return of the trouble. The third case was one in which there was an abscess with a little fecal matter discharging from deep down in the right iliac fossa, evidently from the lower part of the small intestine. After opening the abdomen above the fistula, using a director to indicate the direction of the fistula, the pelvis was found to be simply a mass of coils of intestine glued together, with a suppurating tract running somewhere between these coils. I went to work to try to separate the adhesions, and after working an hour and a half, I finally pulled one piece of the small intestine completely off. To get this piece out of the mass, which I could not go through, was positively the most difficult undertaking I have ever encountered. I finally went down near the rectum and sigmoid on the oposite side and found where the coil started again. There was nothing left but to simply enucleate the mass of connective tissue, which I did together with about twelve inches of the small intestine, and then united the ends with a Murphy button, dried the pelvis and packed carefully with gauze and the patient recovered. She was on the table two and half hours, and I never encountered such a difficult piece of surgery in any other case. I think her recovery was more an accident than anything else. Such a case will rarely recover in the hands of anyone.

SELECTED GOOD ADVICE.

If you've got a thought that's happy,
Boil it down;
Make it short and crisp and snappy—
Boil it down.
When your brain its coin has minted,
Down the page your pen has sprinted,
If you want your effort printed,
Boil it down.

Take out every surplus letter—
Boil it down;
Fewer syllables the better—
Boil it down.
Make your meaning plain—express it
So we'll know, not merely guess it;
Then, my friend ere you address it,
Boil it down.

Boil out all the extra trimmings—
Boil it down;
Skim it well, then skim the skimmings,
Boil it down.
When you're sure 'twould be a sin to
Cut another sentence into,
Send it on, and *we'll* begin to
Boil it down.

Women under the Moslem Law.—Prof. Ali Osman in the *Humanitarian* says: "As soon as a woman is of age the Moslem law vests in her all the rights which belong to her as an independent human being. She is entitled to share in the inheritance of her parents along with her brothers. A woman who is *sui juris* can under no circumstances be married without her own express consent, 'not even by the Sultan.' On her marriage she does not cease to be a separate member of society. A Moslem marriage is a civil act, needing no priest or ceremonial. The contract gives the man no power over the woman's person beyond what the law defines, and none whatever over her property. Her rights as a mother do not depend upon the idiosyncrasies of individual judges. Her earnings, acquired by her own labors, can not be squandered by her husband, nor can she be ill-treated with impunity. She continues to exercise, after she has passed from her father's house into her husband's, all the rights which the law gives to men. An ante-nuptial settlement by the husband in favor of the wife is a necessary condition, and if he does not make such a settlement the law presumes one in accordance with the social position of the wife. Briefly, all the privileges which belong to her as wife or mother are secured to her not by courtesy, but by the book of the law.

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Do that which is assigned thee, and thou canst not hope too much or dare too much.—EMERSON.

THE BRIGHT SIDE.

IF there is a bright side in war, it is in the care given to the sanitary condition of the troops, in preventing disease and keeping them in good physical condition to meet the enemy, and caring for those borne from the battlefield to the camp and the hospital. Much of this work, such as the location of camps, the preparation of rations and general hygiene and sanitation, naturally falls in a great degree to our profession, and the intelligence and energy already shown is a convincing proof that it is in proper hands.

Gen. Miles, after a careful inspection of all the camps, reported that the health of the troops was exceptionally good. At Tampa he found the sick list was less than 1 per cent., a surprisingly low record; and this most gratifying indication as to health appeared among both the troops who embarked for Santiago with Gov. Shafter and those still remaining on shore in the camp. The same may be said of the troops already dispatched to the Philippines and those who are to follow. The danger of tropical climate, both in Cuba and the Philippines, has been much overrated, and under the direction of intelligent medical officers in the location of camp and their sanitary supervision will undoubtedly be very much discounted. Through the center of Cuba, from one end to the other, the country is mountainous and comparatively free from malaria; the same may be said of the Philippine Islands; and these elevated districts, so near the coast, can be easily utilized in the movement of troops and the location of central camps. The standard of health prevailing among the crews of the navy is equally high as in that of the army, though the most of them are compelled to endure tropical heat under peculiarly trying circumstances. Fortunately, hospital ships accompany each squadron, where the sick and the wounded will be as well cared for as on land. On each ship there is an ice plant and nurses from the Red Cross Society, thoroughly trained to both medical and surgical work. The Red Cross ship, "State of Texas," accompanied the invading army to Cuba, carrying with it twelve hundred tons of good clothing and medicine from the Central Cuban Relief Committee of New York. The members of the Red Cross party fully understand they are on no pleasure excursion. Some are veterans, who have been under fire in war service as soldiers and nurses, and well know the meaning of hardship and danger. Several of the party have worked among the reconcentrados. No phase of human suffering could be more appalling, no condition of human wretchedness more repulsive, than they have faced in that line of relief in Cuba. In Clara Barton they have a cool, quiet, strong leader, who maintains discipline through firmness and kindness, and by personal example inspires loyalty and faithful performance of duty. Though seventy years old Miss Barton is the earliest riser on board, and possessed of rare executive ability, she also creates an atmosphere of systematic industry, and every one about her is busy. The origin and history of the Red Cross Society brings out in a marked degree the higher and nobler traits of an ever-advancing humanity. At the battle of Solferino in 1859 the terrible and needless suffering and loss of life, caused by days of neglect to care for wounded and dying, was witnessed by Henry Dunans, of Geneva, who conceived the idea of pledging the nations of the earth to regard and protect as neutral all sick and wounded combatants and all persons and means engaged in giving them succor. Through his exertions and the co-operation of the Swiss Federal Council, a convention representing sixteen governments met in Geneva in 1864 and formed an international treaty, now represented by forty governments, to which, including various societies organized to carry out its aim, they gave the name of the Red Cross, the treaty designating "a red cross on a white ground." The red cross on a white ground was adopted as a compliment to the Swiss confederation, whose national flag is the reverse—a white cross on a red ground.

Whenever the flag is displayed, accompanied by the national flag to which the hospital belongs,

it is treated, respected and protected as a neutral. Under the treaty, soldiers disabled by wounds or sickness, who have fallen into the hands of the enemy, may be sent through the lines; if healed, in the hands of the enemy and incapable of bearing arms, they must be delivered to the outposts to be sent to their homes upon request; if capable of further military service they may be sent to their homes on condition of not again bearing arms during the war. It will be seen the spirit of the Red Cross treaty makes of the wounded or sick soldier a neutral, a non-combatant. An American amendment, devised by Miss Barton, has been adopted as part of the treaty, which includes relief of great national calamities other than war, such at famine, pestilence, cyclone and flood. Whatever work this society has to do is always quickly and well done, contributing alike to all on both sides with whom they are brought in contact, who need their aid. Spain, on the ground that the insurgents are not belligerants, place them outside the pale of the Red Cross Society, and deny to their sick and wounded its privileges. Societies are actively at work all over the country in looking after the families, who may need assistance, of the brave men who are fighting the battles of liberty in one of the holiest causes which ever fired the heart of man.

Unprepared as we were, there was unavoidable delays, soon remedied, and now the army fighting under our flag, in equipment, in courage, in the skill of its leaders, challenge the admiration of a liberty-loving people everywhere. The Spain of to-day in its colonial rule is the Spain of the sixteenth century, three hundred years behind the spirit of the age. Standing like a dark mountain in the current of national development and human freedom, she presents a strong contrast to the Spain which in its early history challenged the admiration of the world with a record brilliant in literature, arts and science which even now, in the seeming paralysis of decay, adds a luster to her name. God grant that the shock through which she is now passing may awaken into active and fruitful life the spirit of her early days, and that in the emancipation of her colonies she may read aright the lesson, that no power can, in these days, long obstruct the current of progress and of human freedom. Let Spain once realize the fact that we are living in the nineteenth century, and it is not too late for her to renew her youth with all its brilliancy and power.

It is not our failures that ruin us, but our fear and tardiness in making new beginnings after failure.

DEATHS UNDER CHLOROFORM.

So many deaths have occurred under the influence of chloroform as an anesthetic, that notwithstanding its much more rapid action and greater freedom from those after unpleasant effects, such as long-continued nausea, so peculiar to ether, the latter from its apparent greater safety has been preferred by most surgeons where full anesthetic effects were desired. This matter was considered of so much importance that through the munificence of the Nizam of Hyderabad, in India, a commission of acknowledged scientific skill was appointed to minutely investigate the possible danger of chloroform as an anesthetic. The investigation was as thorough and exhaustive as possible, embodying experiments made upon 588 animals, principally dogs and monkeys, who passed from consciousness to a painless death. The attention of the committee was directed to two points, whether chloroform kills simply when so badly administered as to produce cessation of respiration, viz., suffocation or asphyxia, or whether it may, under certain circumstances, even when no suffocation is allowed to exist, prove fatal by acting upon the heart and blood-circulating mechanism. Sir James Simpson, to whom the public are undoubtedly indebted for the first practical use of chloroform as an anesthetic, taught that when chloroform was given diluted with too little air, it might produce death by paralysis of respiration, that is, by suffocation; but he also stated that chloroform was capable of destroying life both by suffocation and also by syncope, or direct heart failure. It was to clear up these points and to determine whether one or both is correct that the attention of the commission was directed in a series of the most careful tests ever made. The conclusion reached was that chloroform as an anesthetic is entirely free from risk as long as the breathing is in no way interfered with, and that death from chloroform is never due to heart failure, for the respiration always stops before the heart does. In the opinion of the commission, chloroform has no direct action on the heart; the sudden effects on the heart being not really due to the chloroform at all, but are the results of asphyxia or suffocation. It is claimed by the commission that when death occurs, in the close watching of the pulse, instead of the respiration, the real danger is overlooked until too late.

We must confess a great partiality to chloroform as an anesthetic. In a somewhat large obstetrical practice covering over fifty years of professional life, in over three thousand cases of childbirth we have never administered any other

anesthetic but chloroform, frequently near the close of the labor, bringing the patient under its full influence, and in no case with fatal result. The utmost care was always taken in the administration, the chloroform being well diluted with air. Dr. J. M. Carnochan, for twenty-one years surgeon-in-chief of the Emigrants Hospital on Ward's Island, at the time one of the largest in the world, gave chloroform in over three thousand cases and never with bad results. He was very particular as to the purity of the anesthetic, always using the Scotch preparation of Duncan and Flockart. This was probably more from the force of habit, as there are other preparations, of American make, just as good.

Dr. Hubley Shall, of the Hahnemann Hospital, Philadelphia, whose large experience and careful study of anesthetics places him in the front rank of experts, says: "I believe that many operative cases that prove fatal after coming off the table, die from the effect of ether and not from shock produced by the knife. I am positive that the action of ether on the kidneys is more pronounced than is generally supposed. Eight years of anesthetic giving teaches me, other things being equal, that chloroform is as safe as any other general anesthetic, if given by a competent anesthetist."

All recognize the danger of paralyzing the brain center with chloroform and so causing asphyxia. Of course the pulse should be watched as well as the respiration; but in the face of the carefully conducted experiments of the Hyderabad commission, is there sufficient proof that the direct action of chloroform upon the heart muscle and the fatal results likely to follow are sufficiently established to interdict its use by intelligent surgeons and obstetricians?

THE FUTURE OF THE NEGRO RACE IN THIS COUNTRY.

THE Colonization Society and the Abolition Society were formed early in this century. One advocated removing the negroes in this country to Africa, colonizing them there, and with pecuniary and educational aid permitting them to become their own rulers and work out their futures as directly interested in a state of their own founding and under their own control. Among our statesmen Henry Clay was one of the supporters of the plan. The history of Liberia and Sierra Leone give an idea of the success of the project. Contemporary with this organization was the Abolition Society, headed by William Lloyd Garrison, which contended for the direct emancipation of the slaves, giving them on our own soil all the rights of citizenship. In the discussion of the duties we owed to the negro race in our midst, a paper by the Rev. Dr. Horace Bushnell, of Hartford, Conn., brought out a very strong point, which the recent facts in history seem to have confirmed. Dr. Bushnell's position was that two races, dissimilar, in mental and physical characteristics, could not long live side by side with each other in the same pursuits of life, without the stronger, slowly it might be, but surely, crowding out the weaker, until only a remnant who had absorbed some of the energy and strength of the stronger race remains. As a proof he instanced the gradual extinction of the North American tribes of Indians and predicted that if the negro race were emancipated and left to themselves a similar result would follow. In this connection the mortuary reports of some of our cities are of marked interest. In March, 1898, the death rates for whites in Baltimore was 1 to 852; for negroes, 1 to 385. In Nashville, for the month of March the death rate for whites was 1 to 855; for negroes 1 to 480. Statistics of other cities with a large colored population show similar results. It is a question whether, notwithstanding all the efforts which are being made to improve the condition of the colored race by education and facilities for remunerative labor, the colored race, as a race in the United States, is doomed, by the working of a natural law, to such a diminution of its number that like the North American Indians, in time only a vestage will be left.

In the present crisis, when the question of protection to the islands we are setting free from a despotism, which has shown no improvement since the middle ages, is troubling the minds of our statesmen, may not the solution be found in the adaptability of the negro for active service in the tropical regions of the West Indies and the Philippines as a soldier. There are now in this country nine millions of colored people, and in our army five thousand negro troops, who have shown their bravery in Indian wars and who are "immune" to yellow fever. There are no braver men than trained negroes, and under white officers, whom they are accustomed to respect, none who would do better work in the tropical regions which are coming under our control. Why not increase the five thousand to twenty thousand, and with them garrison our new possessions?

ADDRESS OF SURGEON-GENERAL STERNBERG BEFORE THE AMERICAN MEDICAL ASSOCIATION.

THE large amount of work thrown upon the Surgeon-General in connection with the war prevented his presiding as President of the American Medical Association, at its recent meeting,

but the address, from which we make a few extracts, was read by Col. Woodhull, of the army. To maintain our standing, said Gen. Sternberg, in the estimation of the educated classes we must not rely upon our diplomas or upon our membership in medical societies, but must show ourselves superior in knowledge and in professional resources to the ignorant pretender or to the graduate of a medical school which is bound in its teachings by an untenable creed, adopted before the light of science had taught physicians to reject theories and the dicta of authorities in favor of truths demonstrated by modern methods of research. There are those who still speak of us as "old-school physicians," ignorant apparently of the fact that scientific medicine is to a great extent of very recent origin, and that all of the great discoveries in relation to the etiology, prevention, and specific treatment of infectious diseases, and nearly all the improved methods and instrumental appliances for clinical diagnosis and surgical treatment, have had their origin within the ranks of the regular profession. While, therefore, we still have with us some "old-school doctors," who have fallen behind the procession, the profession as a whole has been moving forward with incredible activity upon the susbtantial basis of scientific research, and, if we are to be characterized by any distinctive name, the only one applicable would be the "*new school of scientific medicine.*" Not that our science is complete, for we have still many things to learn and many problems which have thus far resisted all efforts at their solution; but we have learned how to attack these problems, and no one any longer expects that they can be solved by the exercise of the reasoning powers and the facile use of the pen.

Gov. Sternberg, in his address, makes frequent reference to scientific medicine, and in taking into consideration the foundations, methods, resources and prospects of medical science as it exists to-day says: We admit in advance that there is still much in medical teaching which is not science, but which is founded upon improved theories and the traditions which have come down to us from a pre-scientific age. But medical teachers and writers show a constantly increasing appreciation of the methods of science and of the nature of the evidence demanded by it for the establishment of truth and a corresponding want of respect for assertions and theories, the truth of which has not been demonstrated.

In all departments of science an exact knowledge has been obtained by observation and experiment and science has been largely indebted to these for its advancement. Thus, the primitive astronomers observed the stars with the unaided eye, but the astronomy of the present day depends upon observations made with the telescope, measurements made with instruments of precision and mathematical processes, the results of which can be controlled and proved in various ways. So in medicine, the older physicians, relying upon their unaided senses, made and recorded observations, some of which were exact and constitute part of the medical science of the present day, but many of which were inexact and unreliable, as were the inferences drawn from them. Until the compound microscope was invented and perfected we had no means of discerning the micro-organisms which have been proved to be the cause of many of the infectious diseases, or of recognizing the histological changes which result from various disease processes. By the invention and practical application of such aids to diagnosis as the stethoscope, the ophthalmoscope, the clinical thermometer, the laryngoscope, the vaginal and rectal speculum, the stomach tube, the urinary test case, the microscope, and the X-ray apparatus, we are able to recognize pathological conditions which to the unaided senses of our predecessors were beyond discovery, and, being known only by their effects, led to vague speculations and vain theories as to the aetiology of disease.

The present status of scientific medicine shows we are not "old school doctors," and that medicine has not been behind other branches of science in taking advantage of improved methods of research and in establishing itself upon the sound basis of facts demonstrated by experiment and observation with instruments of precision. There is no room for creeds and "pathies" in medicine, any more than in astronomy, geology, or botany. Every man is entitled to his own opinion upon any unsettled problem, but if he entertains an opinion in conflict with ascertained facts he simply shows his ignorance. There is no restriction placed upon any physician who graduates from our regular schools, as to the mode of treatment he should pursue in any given case. If he sees fit to prescribe a bread pill or a hundredth trituration of carbo vegetabilis, there is no professional rule of ethics to prevent him from doing so. But if his patient dies from diphtheria because of his failure to administer a proper remedy, or if he recklessly infects a wound with dirty fingers or instruments, or transfers pathogenic streptococci from a case of phlegmonous erysipelas to the interior of the uterus of a puerperal woman, it would appear that the courts should

have something to say as to his fitness to practice medicine. There is, however, nothing in the code of ethics which will prevent him from associating with reputable practitioners. But no matter where or when he obtained his medical degree, he can scarcely be said to belong to the modern school of scientific medicine. We must not fail to recognize, however, that the progress of knowledge has been so rapid that it is impossible for the busy practitioner to keep pace with it, and that even the requirement now generally adopted by our leading medical schools for a four years' course of study is inadequate for the attainment of such a degree of professional knowledge and practical skill in diagnosis and therapeutics as is desirable for one who intends to practice scientific medicine.

[All schools chartered by the state are recognized in law as regular.—Ed.]

A COMMITTEE from the Homeopathic Medical Society of Germantown, Philadelphia, recently waited on President McKinley, requesting that the homeopaths be placed upon equal footing in the army and navy with the graduates of other schools of medicine. The President assured them there was no discrimination between schools. All graduates of regular medical colleges were equally entitled to appointments as surgeon and assistant surgeons in the army and navy, provided they passed the examination. All colleges are considered regular who hold charters legally granted by the state. There has been a great deal of misunderstanding about this matter which might have easily been removed by a simple knowledge of the facts. In the civil war there were scores of graduates of so-called homeopathic schools of medicine in the surgeon's department, not as homeopathic surgeons, but as surgeons and physicians free to practice in accordance with their best knowledge. And the same is true in the present war. School is not recognized in the army and navy, and the appointment is made not as homeopathic surgeon or eclectic surgeon, or allopathic surgeon, but simply as surgeon, a title broad enough to fill the entire bill. The rules of the department make absolutely no disinction between old and new schools, and the surgeon-general says the inquiry is never made at his office.

IT is not long since the expansive power of water reduced to steam revolutionized the world of industry. While in the midst of its triumph, a still greater force, more subtle, far reaching and almost invincible was developed in electricity. Standing on the threshold of the development of this almost spiritual and what would have been considered less than a century ago, miraculous power, another adaptation of force rises before us, in liquid air, completing a trinity for the development of power, which places in the hands of man a mastery of the forces of nature. By a simple and inexpensive mechanical contrivance Mr. Charles E. Tripler has succeeded in compressing eight hundred cubic feet of air into one foot. When it becomes divested of the heat derived from the sun, assumes a liquid form, in temperature 312 degrees below zero, and yet in a condition to be transported with ease and safety. In the expansion of this liquid air, as it returns to its gaseous state, is a power which will fill an important place in the great trinity of developing forces, steam, electricity and air.

In medicine and surgery we see the possibility of furnishing air absolutely free from germs, of cooling the hospital wards, even in the tropics, to any desired temperature, and in yellow fever wards preventing contagion to nurses and facilitating the convalesence of the patients by keeping the air below frost point. With a pure, cool, germless air at our disposal, in our own homes, there would be no need of sending our patients to the mountains or the seashore for consumption or asthma, but every home might be made, to a certain extent, a sanitarium in itself.

EVERY physician who has had many cases of diphtheria has noticed when the patient was apparently convalescing and all symptoms of danger had passed sudden cardiac failure with scarcely any warning, terminating fatally. Dr. Thomas, in a recent number of the Boston *Medical and Surgical Journal*, gives his conclusion based upon a series of twenty-five carefully selected cases with autopsies and microscopical examinations, from the pathological laboratory of the Boston City Hospital. The changes in the nervous system produced by diphtheria, Dr. Thomas thinks, are: 1. A marked paranchymatous degeneration of the peripheral nerves, sometimes accompanied by an interstitial process, hyperemia and hemorrhage; 2. Acute, diffuse, paranchematous degeneration of the nerve fibers of the cord and brain. 3. No changes, or but slight ones in the nerve cells; 4. Acute parachematous and interstitial changes in the muscles, especially the heart muscle; 5. Occasional hyperemia, infiltration or hemorrhage in the brain or cord, in rare cases severe enough to produce permanent troubles, such as the cases of multiple sclerosis or of hemoplegia, which have been observed. Finally, the probability that the sudden deaths from heart failure in diphtheria,

during the disease or convalescence, are due to the effects of toxic substances, produced in the disease, upon the nerve structures of the heart.

PROF. RAMSAY, who with Lord Raleigh, was the joint discoverer of argon, has discovered a new element in the atmosphere, to which he has given the name of *crypton*. This hitherto unknown gas is heavier than argon, with a characteristic spectrum less volatile than nitrogen, ogyxgen and argon. Prof. Ramsay thinks the new element in density and weight may be classed with helium.

THE mania, or fashion perhaps it might better be called, among ladies of covering the face with a veil is almost universal. Crape as a mourning veil has been proven to be so markedly unhealthy that it is now generally discarded as a mourning covering to the face.

Dr. G. A. Wood, of Chicago, has recently made tests as accurate as possible to ascertain if any danger to the eyes would be likely to be produced by the wearing of veils. For this purpose he selected a dozen typical specimens of the article and applied the ordinary tests of ability to read while wearing them; and the tests show that every description of veil affects more or less the ability to see distinctly, both in the distance and near at hand, the most objectionable being the dotted sort. Other things being equal, vision is interfered with in direct proportion to the number of meshes per square inch, as the texture of the material also play an important part in the matter. Thus, when the sides of the mesh are single, compact thread, the eye is much less embarrassed than when double threads are used; the least objectionable veil, on the whole, being that which is without dots, sprays, or other figures, but with large and regular meshes made with single and compact threads. Dr. Wood pertinently remarks that, while eye troubles do not necessarily result from wearing veils—for the healthy eye is as able as any other part of the body to resist legitimate strain—weak eyes are injured by them.

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OUTLINES OF RURAL HYGIENE FOR PHYSICIANS, STUDENTS AND SANITARIANS: By Harvey B. Bashore, M.D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on the Normal Distribution of Chlorine. By Prof. Herbert E. Smith, of Yale University. Illustrated. Philadelphia: The F. A. Davis Co., Publishers. 1897.

This little book will be found useful to people living outside the larger cities, where sanitary knowledge is not so familiar and where it is very much needed. The text is practical and to the point.

ATLAS AND ABSTRACT OF THE DISEASES OF THE LARYNX. By Dr. L. Grunwald, of Munich. Authorized translation from the German. Edited by Charles P. Grayson, M.D., Lecturer on Laryngology and Rhinology in the University of Pennsylvania; Physician-in-Charge of the Throat and Nose Department, Hospital of the University of Pennsylvania. With 107 Colored Figures on 44 Plates.

ATLAS OF LEGAL MEDICINE. By Dr. E. Von Hofmann, Professor of Legal Medicine and Director of the Medico-Legal Institute of Vienna. Authorized Translation from the German. Edited by Frederick Peterson, M.D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York. Assisted by Aloysius O. J. Kelly, M.D., Instructor in Physical Diagnosis, University of Pennsylvania; Adjunct Professor of Pathology, Philadelphia Polyclinic; Visiting Physician to St. Mary's and St. Agnes' Hospitals; Pathologist to the German Hospital, Philadelphia. 56 Plates in Colors and 193 Illustrations in Black. Philadelphia: W. B. Saunders. 1898. Price, $3.50 each.

The series of books of which these form a part are authorized translations into English of a world-famous work, which for scientific accuracy, pictorial beauty, compactness and cheapness, surpass anything before attempted. The colored plates, skillfully executed, accompanied by a full and appropriate description, besides numerous illustrations in the text, form an outline of the subject to which it is devoted, of most practical usefulness. They offer a ready and satisfactory substitute for clinical observation, indispensable to those who are so situated as to be without the pale of hospital opportunity. The universal translation with competent editorial supervision, combining the best artistic and professional talent to produce the most elegant style, has been accomplished at a price heretofore unapproached in cheapness. The fact that the text has been translated into nine different languages is sufficient evidence of the great value of the work.

ACCIDENT AND INJURY; Their Relation to Diseases of the Nervous System. By Pearce Bailey, A.M., M.D. New York: D. Appleton & Co., 1898.

We have no book which covers the field the author has marked out., viz., to furnish a systematic description of the nervous affections which result from injury and fright, and which, under the generally familiar term of the "traumatic neurosis," exist independent of any as yet demonstrated lesion in the nervous system. These disorders are of sufficient occurrence to constitute a comprehensive chapter on internal medicine, and they have obtained a position of legal prominence from the frequency with which they are associated with questions of liability. The author has gathered together the evidence of the cause and nature of traumatic neuroses, together with their symptoms, as to permit them to be recognized as definite clinical types, and to be diagnosticated with reasonable accuracy. To obtain and classify this evidence, the author has been obliged to look over a large number of monographs, most of them in foreign languages. The result is a work which will prove of immense value to the profession.

RATIONAL HOME GYMNASTICS: By Hartrig Nisson. C. Badger & Co., Boston, 1898.

This small pocket volume is intended for home use. Each exercise is photographed from positions taken by the author, and clear explicit directions given as to the performance of the motions and the cases for which they are best adapted. The exercises will be found useful not only in keeping up the general circulation of those in comparative good health, but in a great variety of cases where certain organs require the tonic action of muscular contraction and an increased flow of blood to the parts.

THE NERVOUS SYSTEM AND ITS DISEASES: A Practical Treatise on Neurology for the Use of Physicians and Students. By Charles K. Mills, M.D. Diseases of the brain and cranial nerves, with a general introduction of the study and treatment of nervous dieases, with 459 illustrations. Philadelphia: J. P. Lippincott Co., 1898.

Notwithstanding several excellent manuals on nervous diseases have been written during the past few years, no

extensive treatise in the English language has been published since that of Gower's in two volumes, which almost from its publication has been a text book in most of our medical colleges. The present work is timely, including, as it does, in one large volume, not only a discussion of the diseases of the brain and the cranial nerves, but the study and treatment of nervous diseases in general, with a full presentation of the many recent additions to the anatomy and pathology of the nervous system. The introductory portions of the work are specially valuable, comprising a summary of the embryology, anatomy, physiology and chemistry of the nervous system and a consideration of the general pathology, etiology and symptomatology of nervous diseases, with the method of investigating them and the best measures applicable to their treatment. Close attention has been given to cerebral localization, giving the results of the latest researches and observations. The illustrations, many of which are new, and all artistically executed, are a great help to the full understanding of the text. The profession will be glad to learn that this volume will be followed in due time by another, which will include the remaining diseases of the nervous system, insanity and the medical jurisprudence of both nervous and mental diseases. Prof. Mills' style is scholarly, concise and a model of lucidity, easy to read, understand and remember.

AN AMERICAN TEXT-BOOK OF GENITO-URINARY DISEASES, SYPHILIS AND SKIN DISEASES. Edited by L. Bolton Bangs, M.D., and W. A. Hardaway, A.M., M.D. Illustrated with 300 engravings and 20 full colored plates. Philadelphia: W. B. Saunders, 1898.

The profession is to be congratulated on the addition of another volume to Mr. Saunder's invaluable list of text-books by American authors. It is safe to say no list of text-books so fully represents the practice of the profession in this country as that from the press of Mr. Saunders. It is generally admitted that the practice of our profession in this country is to a certain extent cosmopolitan, including the most advanced idea of the ripest thought throughout the world, modified or changed perhaps in detail, to meet conditions, but if so only to become more practical and more successful. As we turn over page after page of this work we cannot fail to notice the care with which it has been edited and the scholarly and practical character of its contents, in which it would seem all that is latest and best on the closely related subjects included in the volume has been carefully condensed and presented in a clear and scholarly manner in strict accordance with the most modern and authoritative thought.

The chief points of excellence of the work can be summed up:

1. Thoroughness, accuracy and modernness, from the number of authoritative contributors.
2. Practical utility, from careful insistence on the importance of diagnosis and treatment.
3. It covers in a single volume a vast field usually requiring several volumes.

The typography, illustrations and general appearance of the volume are in keeping with all of the Saunders publications.

BRIEF ESSAYS ON ORTHOPEDIC SURGERY. By Newton M. Shaffer, M.D. D. Appleton & Co.

Several of the essays which have appeared under Dr. Shaffer's name within the past few years in the *Record* and New York *Journal* have very wisely been given a more permanent form by the author in this small volume. Dr. Schaffer is recognized as one of our most able specialists in orthopedic surgery, and his essays are classic in style and full of thoughtful suggestions. His definition of orthopedic surgery, read before the Bohn Congress, covers the entire ground: "Orthopedic surgery is that part of surgery which includes the prevention, the mechanical treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus and special mechanical dressing are necessary."

MODERN GYNÆCOLOGY: A Treatise on Diseases of Women. By Charles H. Bushony, M.D. Second edition enlarged. New York: E. B. Treat & Co., 1898.

A concise, well written volume, full of information and rich in suggestions. The volume will be of great value not only to the student, but to the physician who has not time to look up the required information in larger works.

ANNUAL AND ANALYTICAL CYCLOPÆDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M.D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators, and Correspondents. Illustrated with Chromo-lithographs and Maps. Volume I. The F. A. Davis Co. Publishers, Philadelphia, Pa.

This publication takes the place of the annual of the Universal Medical Sciences, which was started ten years ago, and of which five hundred thousand volumes have been sold during the ten years. To come directly within the sphere of the family physician, while it will be equally useful to writers and teachers, the form of the work was changed to the present, which, when completed, will present all the general diseases described in text-books on practical subjects—medicine, surgery, therapeutics, obstetrics, etc.; also inserted in their logical order in the text are the progressive features of value during the last decade. The general arrangement adopted will probably cover the entire field in six volumes. The first volume ends with Bright's disease. It will be readily seen what an important place a work of this kind will occupy in the library of the general practitioner. We anticipate for this work a greater popularity even than its predecessor enjoyed. The typography and binding are models of artistic bookmaking.

TWENTIETH CENTURY PRACTICE: An International Encylopedia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In twenty volumes. Vol. XIV., Infectious Diseases. New York: William Wood & Co., 1898.

Scarlet fever and German measles are treated by F. Forcheimer, M.D., of Cincinnati; measles and glandular fever by Dawson Williams, M.D., of London; whooping cough by Joseph O'Dwyer and Nathaniel Read Norton, of New York; cholera infantum by A. Jacobi of New York; cholera nostros and Asiatic cholera by Theodore Bumpf, of Hamburg; Denque by Sir Joseph Fayer, Bart., London; Berriberri by A. A. De Azevedo Sodre, Rio de Janeiro; Mikiang fever by A. Netter, Paris; Matta fever by David Bruce, British Army.

As one after another of the volumes of the "Twentieth Century Practice" comes before us for notice we are struck both by their uniform excellence and the marked ability and scholarly manner with which each subject is treated. The space devoted to each subject is ample in skilled hands to give a clear picture of every disease. The reader with these volumes in his library is in touch with the master minds of his profession, those of the widest experience, those of such standing that they cannot afford to be anything but liberal and, as far as they reach, thoroughly truthful in all their statements.

ILLUSTRATED SKIN DISEASES: An Atlas and Text-Book, with Special Reference to Modern Diagnosis and the Most Approved Methods of Treatment. By Wm. S. Gottheil, M.D. New York: E. B. Treat, 5 Cooper Union.

The fourth, fifth and sixth portfolios of this admirable work fully carry out the promise in the artistic correctness of the plates and the scientific accuracy and fullness of information of the initial number.

Portfolio four contains morbilli, babcola, scarlatina, variola, vaccinia, varicella, lichen planus, lichen buber fevers, tricophytosis capitis and barbae.

Portfolio five contains tricophytosis corporis, pilyisasis rosea, chromophytosis, erythrasma, scabies, phtheriasis capitis vistimementi and pubis eczema.

Portfolio six contains eczema, erythema muliforma, herpes, zoster, dysidrosis, pemphigus, dermatitis herpitiformis, impitigo contagiosa, dermatitis exposiativa, poriasis.

The work will be completed in twelve quarterly portfolios at $1 each. Each portfolio comprises twenty-four pages of text profusely illustrated with numerous black and white engravings and four plates of cases from life reproduced in colors. The work is an excellent substitute for clinical teaching in the hospital, as the illustations are true to life.

THE *Century Magazine* has arranged for a series of articles on the present war somewhat in the manner of its famous "Battles and Leaders of the Civil War." The series will be entitled "Battles and Leaders, Places and Problems of the Spanish-American War," and will be of marked interest.

A MANUAL OF HYGIENE AND SANITATION. By Seneca Egbert, A.M., M.D. Lea Bros. & Co., Philadelphia, 1898.

The author has given a plain statement of the fundamental principles and facts of hygiene and sanitation, concise and systematic, together with such explanation as make the work easily understood by the general reader as well as by the student or medium. The volume deals with personal as well as general health and contains valuable information for every family.

DISEASES OF THE SKIN: THEIR CONSTITUTIONAL NATURE AND CURE. By J. Compton Burnett, M.D. Philadelphia: Boreike & Tafel, 1898.

Dr. Burnett believes that skin diseases are as a general thing not merely organic, but at the same time organismic or constitutional, and should be treated with internal medicines. Serious diseases of vital organs, he thinks, are very liable to follow suppression of skin troubles from external applications. The work is scholarly written and very suggestive.

THE publication by D. Appleton & Co. of a second edition of INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, by Alva H. Doty. M.D., the present Health Officer of the Port, is timely and will prove of efficient service for military and civil use. The little manual is amply illustrated, the directions being clear and explicit, easily understood by persons of ordinary intelligence. The work closes with a concise chapter on Hygiene, and one of the utmost importance, giving fully illustrated, the drill regulations of the Hospital Corps, U. S. A.

HOSPITAL REPORTS.

A CASE OF MULTIPLE FIBRO-ADENOMA OF THE THYROID WITH MARKED CALCAREOUS DEPOSIT.

BY H. O. SOMMER, M.D.
Assistant Pathologist, Metropolitan Hospital, N. Y. City.

The following brief contribution to the literature of tumors of the thyroid is made from the conviction that, so long as the subject of goitre is, as at present, largely sub-judice, the accumulation of facts that will swell the statistics on this subject is desirable. The exciting cause of goitre and the relations of geological and climatic conditions thereto, has given rise to no end of speculation and investigation. Only shortly before his death Baumann, of Freiburg, one of whose most interesting contributions to physiological chemistry, since iodine and its compounds had long held the first place in the medicinal treatment of goitre, was the discovery of free iodine in the thyroid gland, asked me for statistics on the geographical and geological distribution of goitre in the United States, showing that with Kocher and others he believed geologic and climatic conditions worthy of consideration and therefore indicating the importance of contributions from all sources with especial reference to accurate personal history such as in my case I was unable to obtain in detail.

The case here recorded is that of a German woman admitted to the service of Dr. Arthur Hills, March 29. She was eighty-four years old and widowed, and the exact locality from which she originally came could, unfortunately, not be ascertained. Her general condition in itself precluded operative interference, and* on her nose was a papilloma allegedly of a few years' growth, which was easily removed.

Extending from the cricoid cartilage to the sternum was a tumor, spheroid and smooth, except at the right superior portion where it was slightly nodular and at the portion near the right sterno-clavicular articulation, at which there was an irregularity of cartilaginous or calcareous firmness; a superficial vein over the right sterno-clavicular articulation was much distended; the lateral movement of the tumor was about three-quarters of an inch from the median line and more especially toward the left, while longitudinal motion was practically absent. There was but slight dyspnea and stridor in respiration. The patient eventually died of tuberculosis pulmonalis.

*She informed me that she had already years ago been pronounced inoperative at Bellevue Hospital.

NECROPSY.

Careful dissection of the superficial cervical structures was made and the spheroid protuberance, which had been externally visible, was found to be surrounded by a thin capsule which was easily pushed aside by handle of the

scalpel, the tumor itself presenting a smooth surface and rather firm body, the walls of which when forced inward resumed their former shape with just sufficient ease to exclude a completely solid tumor so as to point to a cystic wall with soft contents.

The sterno-thyroid muscles had been so thinly stretched as to retain their identity only by adherent bands of thin muscular fibres.

Deeper dissection showed that the center of the spheroid lay about over the median line of the neck, but that a peduncular communication of maximum diameter of one inch connected it to the inferior portion of an irregular growth lying to the left of the windpipe and somewhat posteriorly toward the median line and extending from the cricoid cartilage to the fifth tracheal ring (the average diameter of this body was one and one-half inches). To the right of the median line lay a large irregular body, the lowest portion of which lay under the right first costo-sternal articulation, extending somewhat under the sternum and having been completely hidden before sectio cadaveris except by a small irregularity perceptible over the sterno-clavicular junction at the union of the lower right quadrant of the externally visible spheroid, to which it was closely attached by a very slightly concave surface of firm edge, but rather thin wall. The upper termination of this body was about on the cricoid level and it was connected to the other lateral mass posteriorly to the trachea by a fibrous structure about three-sixteenths of an inch in thickness. Transverse section of the trachea showed the well-known D shaped compression. Incision into the spheroid showed the presence of opaque semi-gelatinous contents, with excavation toward the center, contained in a distinct

fibrous capsule. Inspection of the other masses showed a similar condition. Incision, possible only by considerable force with a cartilage knife, into that portion which protruded above the right sterno-clavicular articulation, revealed a decidedly calcareous and cartilaginous condition (see Weir and Foote on goitre, "Dennis's System of Surgery," p. 820, Vol. IV., 1896.

The total weight of the tumor was twelve ounces. Similar large retro-sternal and retro-clavicular goitres have been recorded by Lücke, Krönlein and others who have also observed retro-tracheal goitres with marked tracheal distortions. The remaining findings of the section were uninteresting except that in the the heart, the auriculoventricular septum as well as the valves was almost completely calcified, a point which I believe should not be omitted from the data here recorded, especially in the face of the claims of some observers who maintain that limestone districts are the favorite habitat of goitrous subjects, and, moreover, because of the excessive calcareous deposit which I have especially emphasized as occurring in this case.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF NAPLES.

M. Zagari—Uric acid comes directly from the nucleine contained in the cells, from the nucleine resulting from the metamorphosis of the leucocytes, and from the nucleine absorbed with the food. Two groups of albuminoid substances should be distinguished, those which furnish the urea from the metamorphosis of successive oxidations, and the nucleine which produces uric acid in the same conditions. The last product of the oxidation of nucleine should be considered as to whether it is intra- or extra-cellular. This idea gives a new pathogenic theory of gout, which combats the hypothesis of the majority of authors who admit that gout results from an anomaly of the intra-cellular life of certain tissues, that there are in consequence troubles in the change of matter in the cells from which results the deposit of uric acid in the tissues themselves.

Deep Injections of Antipyrine in Sciatica.—Hypodermic injections of antipyrine have often been employed in the treatment of sciatica, but with very variable results. According to Dr. Kuhn, of Neuenahr, the frequent failures of this therapeutic method are due to the injection not being forced deeply enough for the remedy to be brought in contact with the diseased nerve. He advises the following method: Fill a Pravaz syringe, to which a long needle is attached, with a solution of equal parts of water and antipyrine; plunge this vertically into the thickness of the muscles, near the middle and a little below a line from the tuberosity of the ischium to the great trochanter, and slowly inject. In this way the antipyrine penetrates the immediate neighborhood of the sciatic, and can exercise its analgesic action upon this nervous trunk. In four cases of rebellious sciatica Mr. Kuhn obtained rapid relief by this method.

When It Is Proper to Operate upon Enlarged Tonsils Complicated with Otitis.—Adenoid vegetations of the nasopharynx and enlarged tonsils are, as we know, a frequent cause of otitis, and it is because this complication disturbs patients that they seek advice of the physician. In such cases, besides treating the otitis, the removal of the tonsils and of the adenoid vegetations becomes necessary, and also to know when this operation should be performed. There are no precise indications in the books upon this subject, but it may be said that the majority of laryngologists do not touch the tonsils until the cure of the inflammatory conditions of the ear is completed. Such is not the advice nor the practice of Prof. A. Hessler, teacher of otology of the Faculty of Medicine of Halle, and who for many years has practiced amygdalotomy before the disappearance of the otic complications. Experience has convinced him that not only is there no inconvenience but a real advantage in operating immediately after the acute period of otitis, and while the inflammatory condition continues. By this method the absorption of the exudations and the definite cure of the auricular affection are greatly hastened, and moreover, as the tonsils are still swollen, their total removal is easily done, while this operation becomes more difficult when the inflammation of the ear and throat has ceased, the tonsils diminish in size and become partly covered by the pillars of the arch of the palate. According to M. Hessler the course to be pursued varies as respects the form of the otitis with which we have to deal. If it is a case of simple catarrhal otitis, wait before practicing amygdalotomy, until the tympanitic inflammation and the otorrhoea have subsided. In purulent otitis, cut the membrane of the tympanum freely, to insure free evacuation of the pus, then as the discharge and the congestion diminish, remove the adenoid vegetations and the tonsils.

Treatment of Hemorrhagic Epididymitis by Application of Gaiacol.—M. Jaroslar Lenz has treated, in the service of M. Janovsky at Prague, fifty cases of this disease by gaiacol in the form of a pomade of 10 per cent. with vaseline. When the skin is particularly sensitive, the pomade of 5 per cent. may be used, and is employed as follows: After having thoroughly cleansed the skin of the scrotum the pomade is spread upon a thick pad of lint, and the whole covered by Bilroth's battiste. Because of the heat the gaiacol emits vapor which readily penetrates the skin; moreover, the lint acts as an immovable suspensory of the scrotum by elevating it, and the whole is kept in place by a bandage above the hips. The pomade should be applied twice a day as long as the acute symptoms of fever, heat and swelling continue, and the patient should absorb daily 3 grammes of salol; at the end of three or five days the above symptoms will have disappeared. The analgesic and antipyretic action of gaiacol is especially manifest during the acute period, less in the subacute and not at all in the chronic period. As soon as the acute symptoms have subsided, replace the pomade with the pomade of zeissl; following is the formula: Extract of belladonna, 50th to 1 gr.; diachylon and simple unguent, aa. 25 gr. This treatment has the advantage of being harmless and does not require cessation of the usual occupations.

SOCIETY OF INTERNAL MEDICINE AT BERLIN.

Pathogenesis of Hepatic Cirrhosis.—M. Laborde renewed the question of gastric acidity proposed by M. Riche, and afterwards by M. Hanot, as being the pathogenic cause of cirrhosis of the liver. In opposition to these authors, he does not believe that wine exclusively creates a hyperacid dyspepsia, which is the rule with drinkers of alcohol. M. Hayem recalled the fact that among the innumerable alcoholics received at the hospital Saint Antoine during a period of twenty years, very few were affected with atrophic cirrhosis. He has always insisted upon the perfect relations existing between atrophy of the liver and hypopepsia on the one hand, and on the other between hepatic hypertrophy and parenchymatous gastritis with hyperacidity. These relations being justified by the facts, it will suffice, in order to demonstrate the pathogenesis of hepatic cirrhosis, to examine the composition of the gastric liquid of drinkers of wine and alcohol exclusively. Meanwhile it does not seem as if the sulphate of potash plays so great a role in the etiology of the cirrhosis of drunkards as is declared by M. Lancereaux. M. Lancereaux, in reply, insisted upon the very long time necessary for the production of cirrhotic lesions by the influence, to him indisputable, of the salts of potash contained in wine.

THE NINTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY, AT MADRID, APRIL 10-17, 1898.

Tetanus and Antitoxine.—E. Roux and A. Borel—We desire to prove, in this communication, that the specific affinity of nervous elements for tetanic toxine is manifested when a little toxine is introduced into the cerebral substance of the rabbit. A special disease is created, cerebral tetanus, characterized by extraordinary excitability of the animal, by intermittent convulsive attacks, motor agitation, polyuria, etc., manifestations which in no respect recall ordinary tetanus. Thus we see an experimental disease unfold itself, with variable symptoms, according to the nature and extent of the region involved. The introduction of tetanic toxine into the brain is done by making a small hole with a suitable instrument in a cranial bone, and injecting with a needle deep in the cerebral substance 1-10 or 1-20 of diluted toxine. The operation is of itself entirely harmless. Under the integument the rabbit can bear considerable doses of toxine, but is very sensitive to cerebral inoculation. After the intracranial injection, the animal shows no symptom, but at

the end of eight or twelve hours, it becomes agitated and restless, conceals its head, and turns in its cage as if it was subject to terrible visions. When removed from the cage, it leaps about, has numerous and abundant emissions of urine, epileptiform convulsions supervene, and the lower limbs are separated and moved with difficulty. In brief, the intensity and duration of the disease varies with the dose of the toxine. Death may occur at the end of twelve or fifteen hours, but when the dose is light the animal may survive for fifteen days. Very small doses of the toxine produce a tetanus that is attenuated and curable. The volume of the brain in the rabbit allows the introduction of the toxine at different points. Then we may provoke, experimentally, symptoms corresponding to the points or localities touched by the toxine, and thus we have an original method of exploration of the different encephalic territories—a method of which the physiologist may avail himself. Immunized animals do not resist intra-cerebral inoculation, though their blood is antitoxic. This important fact proves that the antitoxine which we give to animals by injecting antitetanic serum under the skin remains in the blood, in the circulatory system, and that not reaching the nerve cells, it does not protect them. This is the reason why, in the treatment of pronounced tetanus, the antitetanic serum so often fails. It neutralizes the portion of toxine already circulating in the vessels, but it does not affect that which is in the nervous elements. If this be so, what are we to do in order to cure tetanics? We should endeavor to inoculate the nervous system with the antitoxine (for it is there that the tetanic poison is diffused) and try and preserve the vital regions of the myelaxis before its invasion by the toxine. This we have realized in a number of guinea pigs; all of them that were made tetanic by toxine injection were cured by injecting the brain with a few drops of the antitetanic serum. We should not wait until the tetanic poison had accomplished its work upon the whole myelencephale, and it is entirely probable that intra-cerebral inoculation would not save the animal after the upper portion of the medulla had received the full effects of the poison. We have gone further, and our experiments prove that animals that possess active immunity by repeated injections of toxine, or the immunity natural to tetanic and diphtheritic toxines, succumb to tetanus and diphtheria if the brain is inoculated with these poisons. It is so with the alkaloid poisons, such as morphine. This last, when injected under the skin in massive dose produces no effect upon the rabbit, while a single milligramme injected into the brain of the same animal produces considerable toxic effects. These facts show that in the immunity against certain poisons of the nervous system, the resistance of the animals is due to the fact that toxines introduced into the circulation do not attack the nerve cells.

MEDICAL SOCIETIES OF THE HOSPITALS.

The Constant Presence of the Pneumococcus upon the Surface of the Tonsils.—MM. Besancon and Griffon—It is known that the pneumococcus may be met with in the throat without there being any pathological condition, in the form of a simple sapophyte, and if receptive animals are inoculated with the saliva of healthy individuals, or those affected with lesions not pulmonary, the death of the animal supervenes twenty times in a hundred from general pneumcoccy.—Netter. The pneumococcus is constant in the normal or the pathological throat. We have arrived at this conclusion by using the culture of the tonsillar mucus in a medium selected for the pnemococcus, which is the serum of the young rabbit. Each time, the culture was inoculated to the mouse at the end of twenty-four hours. The animal has always died, and the pneumococcus was found in the organs both by investigation and by culture. Forty individuals whose throats were examined were in various conditions—children at an early age, adults and the old, some frequenting hospitals, others laboratories, and others in whom there was no suspicion of contamination; none of them had had pneumonia among their antecedents. Then the pneumococcus, as well as the streptococcus, is a constant guest of the buccal cavity. If up to the present they were found in only a fifth of the cases, the difference is only apparent, and explained by the change of the method used—culture by a selected medium of the tonsillar mucus—and not by salivary inoculation. The deduction from these facts is that this trouble of the nutrition exists in many diseases.

Statistics of Diphtheria at the Hospital Trousseau.—M. Richardiere—The statistics submitted to the Society include the first part and the last two months of the year. They comprehend 696 patients, of whom 125 have died, giving a mortality of 17.9 per 100, and exclusive of thirty-one cases of death occurring in less than twenty-four hours after entering the hospital, the mortality is reduced to 13.5 per 100. Among these cases, 433 of diphtheria without operation gave 4.1 per 100. Of incubated children, 47 died out of 172, or 27.2 per 100. The cause of death of children that were operated upon was nearly always broncho-pneumonia. Tracheotomy primitively practiced 11 times gave 5 deaths, or 45.4 in 100, while a secondary tracheotomy, after tubage, was made 56 times, and only 11 children survived. In addition to the operative interventions, the treatment consisted almost exclusively of injections of antitoxic serum. Above two years, the children received injections of 20 cubic centim.; between one and two years, the dose varied from 10 to 15 cub. centim.; below a year, 10 cub. centim., and most generally a single injection was sufficient. As respects local treatment, irrigation of the throat and nose with boiled water was freely used, and in grave cases to it was added the permanganate of lime, 1 to 4,000. Of consecutive accidents, there were observed only slight eruptions and some articular phenomena. Bronchopneumonia caused death in 77 cases; the treatment employed was that recommended by Renant of Lyons—warm baths, 39 degrees, every three hours for ten minutes. Diphtheritic paralysis was seen in 19 cases, but it is probable that many of the little patients had paralysis after leaving; other complications were exceptional. Bacteriological examination showed that nearly always the bacilli of Loeffler were accompanied by other microbic forms—streptococci, staphylococci, different cocci, tetragenes, etc. These microbic associations have no significance as regards prognosis.

ACADEMY OF SCIENCES.

Cellular Multiplication.—Two modes of cellular multiplication have been generally accepted, direct and indirect division. M. Joannes Chatin shows that each one of these processes may assume numerous secondary or anomalous forms. To establish this, he devotes himself particularly to the investigation of direct division into two successive phenomena, nuclear partition and cellular partition. These two conditions are subdivided into many phases, in the course of which many peculiarities may be observed in the nucleus and in the cell. These M. Chatin described minutely, and discussed their functional signification.

ACADEMY OF MEDICINE.

Multilocular Cysts.—M. Raver reported a number of cases of multilocular cysts of echinococci observed in cattle, which complete the ideas derived from human pathology in similar cases.

Sympathectomy in Exophthalmic Goitre.—M. Combemale, of Lille, gave the precise indications for the resection of the ganglia of the cervical sympathetic in Basedow's disease. He regards this operation as more especially designed to relieve and even cure patients in whom cardiac troubles predominate.

Total Bilateral Resection of the Great Sympathetic.—M. Jonesco, of Bukarest, cited the results obtained by the total bilateral resection of the cervical ganglia of the sympathetic in thirty-five cases of epilepsy, five cases of exophthalmic goitre and three of simple glaucoma. Nearly all of the patients were ameliorated or cured, and most frequently from the day after the operation.

Pyothorax and Gastric Tympanitis.—M. Demaitre, of Vienna, reported three observations of pyothorax following pleurisy with effusion in which it was particularly difficult to establish an exact diagnosis of the quantity of pus because of the resonance or percussion due to the presence of gas in considerable quantity in the digestive tube.

The Iodide of Arsenic in Infantile Scrofula.—M. Saint-Philippe, of Bordeaux, gave the excellent results which he had obtained in the treatment of this disease during three years by the employment of the iodide of arsenic in solution 1-100, in prolonged doses varying from 5 to 20 drops daily.

SOCIETY OF MEDICAL SCIENCES OF LYONS.

Tertiary Syphilis of the Vagina.—M. Viannay read a paper on this subject; his conclusions were as follows: 1st. Tertiary syphilis of the vagina is less rare than the books indicate. 2d. It may affect the vagina primitively or secondarily; in this case, the point of departure is generally vulvar, and, exceptionally perhaps, uterine. 3rd. Tertiary

vaginal lesions present themselves in the form of ulcerations with sharp borders, chancriform, but distinguishable from the soft chancre by their indolence and the negative result of inoculation. 4th, This tertiary form exists by preference in old prostitutes, is cured rapidly by iodine, and leaves no deformity nor atresia. 5th, It always produces cicatricial contractions involving the vulvo-vaginal ring only.

Locomotor Ataxia and Lamalon.—Prof. Donadieu, Leon, consulting physician at Lamalon. Opinions diverse and contradictory prevail in the medical world respecting the efficacy of the waters of Lamalon in tabes. In spite of the skepticism of a great number of physicians, the consultations of our patients are signed by the highest medical opinions of France and Europe, with the chief object of establishing the truth of the following upon solid bases. 1st, The certain efficacy of the waters of Lamalon in tabes. 2d, The opportunity for these waters. 3d, To indicate cases that are refractory or aggravated by the thermal cure. 1st, Cases of cures or remissions judged by physicians strangers to the locality. Prof. Rangier in his work on "The Treatment of Locomotor Ataxia," affirms that without having witnessed complete cures, he has nevertheless seen a rapid diminution and sometimes disappearance of the lightning, "fulgarantes" pains, the attenuation or suppression of the gastric attacks and the sphincter troubles, moreover the progress of the disease has appeared, to this observer, to be arrested or diminished by an annual or even semi-annual reason. Prof. Grasset cites two remarkable cases, under the care of two local physicians. In the first, the diagnosis of tabes was indisputable. Amelioration was confirmed after the thermal treatment, and the cure persisted for seven years. In the second case the diagnosis of tabes was equally indisputable. The disease, which began in 1891, was relieved by the thermal and anti-syphilitic treatment, and patient cured in 1894. The quality and honorable character of observers strangers to the place are incontestable guarantees as respects the diagnosis and results. Indications: When the motor in co-ordination is intense, and the patient has reached the last stages of the disease, the thermal action is nil and impotent. Mercurial anemia, the anti-syphilitic treatment, degradation and exhaustion of the organism by excessive venery, arthritism, etc., are indications for the tonic and reconstructing waters. The hydro-thermal treatment is an invaluable adjuvant to the anti-syphilitic, which can be administered during the cure or in the interval. Counter indications: The rapid evolution of the tabes, the inflammatory state in which there is active and violent fever during the cure, are counter indications. Those tabetics should be distrusted who shocked by the thermal cure, experience no post-thermal sedative action. Also those who are sensitive and become hyperaesthetic during the cure, with fever, prostration, etc., with no progressive quietude nor abatement, and finally those in whom spyhilis survives the cure, in the appearance of mucous patches, etc., or who have been badly treated.

Physiological Action of Abdominal Massage.—M. Cautra has investigated the influence of this action upon gastric function. It acts effectively upon the glands, the muscles and nerves of the stomach, and besides it regulates the blood pressure by the effects of its action upon the general circulation. Its influence is particularly felt upon the functions of the kidneys. It is indicated in congestive forms of dyspepsia, in constipation, in the chronic enteritis of dyspeptics, congestive hypertrophy of the liver, displaced kidneys, and in certain uterine affections.

FRENCH CONGRESS OF MEDICINE AT MONTPELLIER.

At the fourth session of the Congress MM. Uergely, of Bordeaux, and Bard, of Lyons, resumed their reports upon the clinical forms of pulmonary tuberculosis, and endeavored to establish exact and complete classifications of these forms. In an able exposition, M. Uergely, applying himself to the duration of the disease, distinguished three grand forms, each comprehending numerous subdivisions: acute pulmonary tuberculosis, subacute, or galloping consumption and chronic tuberculosis. The classification proposed by M. Bard is an anatomical one, based upon the differences of the topographical localizations of the lesions. He divides the clinical forms of pulmonary tuberculosis into four grand groups: 1st, The parenchymatous forms. 2d, The interstitial. 3rd, The bronchial. 4th, The post-pleuritic forms. M. Bard applied to this exposition his well known qualities of brilliant elocution and scientific precision. The next session was in great measure devoted to the discussion of microbic associations and mixed infections. MM. Malvoz, of Liege, and Spillman, of Nancy, had particularly studied the clinical history of mixed infections and the phenomena due to the association of microbes "in vitro." M. Widal, of Paris, is especially occupied with proofs established "in vivo." He studied successively, 1st, microbic associations in certain infections—tetanus, septic vitrion, gangrene, puerperal infection, cholera, yellow fever. 2d, The mixed infections—typhoid fever, diphtheria, syphilis, scarlatina. 3rd, Secondary infections—typhoid fever, diphtheria, phthisis, pulmonalis, lepra, influenza, scarlatina, rongela variola, pneumonia, blennorrhagia. 4th, The pathogenesis of the mixed infections and secondary infections. 5th, Microbic antagonisms. 6th, Tumoral actions in combined infections. M. Widal's clear and attractive exposition was greeted with loud applause.

The Actual Condition of Opotherapy—The Juice Cure.—M. de Cerenville, of Lausanne, exposed the actual knowledge of the internal secretions of glands, the hypotheses used for the interpretation of their physiological action. The troubles resulting from their pathological deviation, and finally the therapeutic order of facts of the different glands. M. Mosse, of Toulouse, succeeded him, and after citing some historical facts, he investigated the origin, methods, general results, and progressive extension of the general methods for utilizing organs having an internal secretion. It was not possible for him with so vast a subject to review satisfactorily all therapeutic trials that have been made to utilize the internal secreting organs, and so he preferred to dwell more especially upon those from which clinical experience and experimentation had derived the most satisfactory results, and principally thyroid medication. The physiological action of thyroid opotherapy, the mode of administration of thyroid products, their indications and counter-indications, and the results of this method were fully explained. Among the most important communications made to the congress were those of MM. Arloing and Charrin. The first was entitled, Antitoxic action, and the influence exercised upon respiration and circulation by diphtheric toxine and antitoxine. M. Arloing said that it resulted from his experiments that toxine and the anti-diphtheric serum modified the circulation and respiration in the same way—acceleration. The neutralizing action of anti-diphtheric serum is not due to physiological effects opposed to those of toxine, but rather assisted the energetic action of remedies. M. Charrin confirmed the conclusions of M. Arloing as respected respiration, the effects of toxine and serum were inverse with regard to circulation, moreover, the volume of urine diminished under the influence of antitoxine, and increased under that of serum. As to the mode of defense of the economy, M. Charrin showed that antitoxine defends the organism by opposing the production of a series of functional troubles capable of interfering with the normal functions of many of the viscera, especially the liver and kidneys. The communications of MM. Arloing and Charrin made a great impression upon the Congress.

Therapeutic Value of New Intestinal Astringent Remedies—Tannigen, Tannalbine, Tribensoylgallic Acid.—M. Koelzer, Berlin. Trials of the therapeutic value of these substances were made in the Berlin Clinic of Pediatry—Prof. Heubner—on fifty dyspeptic children. They were administered either simultaneously to the same children or to many groups of patients, but always with the exclusion of every other form of treatment. A rigorous diet was employed for all the children that followed the treatment. In order to be of any therapeutic value, an intestinal astringent should fulfill two conditions. It should act directly upon the lesion, the intestinal epithelium—upon the toxines and bacteria found in the intestine, and have a favorable influence upon the general condition. The best method of comparison of the therapeutic value of an intestinal astringent is to examine its effects upon the discharges. The pathological discharges of enteritis may be divided into three groups: 1st, Dyspeptic, slightly consistent, greenish and mixed with a large quantity of mucus. 2d, Diarrheal, very watery. 3rd, Enteric, mixed with cellular products, inflammatory, often hemorrhagic and purulent, and containing a large quantity of mucus. After employing the tannigen, tannalbine and tribensoylgallic acid in sixteen cases of acute dyspepsia, thirty-four cases of chronic, and one case of muco-purulent interitis, the author arrived at the following conclusions: These

remedies are effective in acute dyspepsia, and in true intestinal catarrh, but their actions seems to be uncertain in chronic dyspepsia and enteritis. They exercise no direct inuflence upon the primitive causal malady, as respects their indirect action upon this last, it exercises in proportion as the amelioration of the local affection influences the general disease. They do not appear to produce secondary harmful phenomena, the few cases of vomiting and meteorism observed, could not be charged to these susbtances, for such phenomena are frequent in nurslings. Of the three substances, the tannigen and tannalbine have an equal value, while the tribensoylgallic acid appears less active. Dose: Two grains of tannigen or of tannalbine taken twice or four times daily presents no inconvenience in very young children, the same dose,or even more for the acid. In certain cases where intestinal antisepsis is desired, give at the same time small doses of calomel and the subnitrate of bismuth. This combination gives excellent results.—*Jahrbuch fur Kinderheil Kunde.*

J. A. C.

CORRESPONDENCE.

PHILADELPHIA LETTER.

College Professors and Medical Students for Cuban Liberty.—Patriotism evidently rankles in the bosom of medical men just the same as it does in the innermost sympathies of the ordinary laymen. If any one doubts this, let them point toward Philadelphia as the example. Out at the University of Pennsylvania, Woodruff, the great football player, some time ago volunteered his services. He afterwards wanted to raise a company, and, meeting with so much encouragement, invited other colleges to join, and now has almost enough men to form two regiments.

Many students in the medical department have passed all examinations and will enlist in the National Guards of their respective states. Down at the Jefferson Medical College sturdy men want to fight. Dr. Martin H. Williams, chief of the surgical clinic, together with four other physicians of the staff and eight trained nurses, have offered their services to the Government. It is their intention to be organized into a corps and to work under one leader, and, it is said, would be glad to take charge of some military hospital in Cuba.

At the Medico-Chirurgical College great enthusiasm was recently shown at a meeting in regard to the subject of aiding the Government by actual deeds, and the following, among other resolutions, were passed:

"First.—We hereby tender to the Government of the United States and to the Governor of the State of Pennsylvania the use of all our facilities in the hospital free of charge.

"Second.—The medical and surgical staff of the hospital offer their professional services for the treatment of sailors and soldiers in the hospital free of charge."

After the resolutions were passed over a dozen physicians volunteered to go. Nine trained nurses also signed the resolutions and will go if needed.

Philadelphia Will Care for Her Insane Patients.—When the Committee of the Charities and Corrections recently made their report to councils of the condition of the insane wards at the Philadelphia Hospital, doubtless there was much surprise, for it was stated that many patients actually had to sleep in the aisles on account of lack of room. This has now been overcome, for the city councils have recently passed an ordinance appropriatng $60,000 for the erection of new wards to the other buildings.

Mortality Statistics of Philadelphia.—For the week ending April 30 there was an increase of forty-five deaths over the same period of last week, the total number of deaths being 472.

The deaths from typhoid fever were six, diphtheria sixteen and scarlet fever four, as against typhoid fever six, diphtheria thirteen and scarlet fever two deaths for the week preceding.

Physical Requirements for Entry into United States Army.—For infantry and artillery the height must not be less than five feet four inches, and weight not less than 120 pounds and not more than 190 pounds. For cavalry the height must not be less than five feet four inches and not more than five fet ten inches, and weight not exceeding 165 pounds. No minimum weight for cavalry is required.

Infected Milk Spreads Diphtheria.—Dr. J. Howard Taylor recently made his report to the Board of Health of this city, and it was stated that out of the eighty-six cases of diphtheria for the week the majority of cases came from the district in Germantown supplied by milk from a certain dairy farm.

Out of the eighty-six cases there were twenty-two deaths; typhoid fever, sixty cases and nine deaths; scarlet fever, sixty-one cases and seven deaths. Typhoid fever thus shows a slight increase over the preceding week.

First Aid to Injured Soldiers.—Dr. Gerhard of Philadelphia, in his lectures to the nurses of the Red Cross Society, who have offered their services to the Government, has so far spoken mostly on the quick treatment of fractures preliminary to the coming of the doctor. For splints, old swords, scabbards or guns are most valuable and must be padded with straw, moss or grass, the whole to be bound around the affected part with green vines, suspenders, wire or pieces of clothing.

A Method to Abate the Hospital Evil.—Philadelphia, like all other large cities, is suffering from the hospital evil, and much time has been spent to correct the abuse of charity.

Nearly all of the medical societies have had the matter brought up for discussion, and no end of policies have been outlined.

Lately Drs. John Ashhurst, John B. Roberts, S. D. Risley and others have become quite active in the campaign, and a meeting was recently called at the College of Physicians to devise some means for its correction.

Judge Ashman of the Orphan's Court presided. Nearly one hundred physicians were brought, and many took part in the discussion.

The object of the meeting was stated by Dr. Edward Jackson, who called attention to the fact that New York and Boston had already taken the initiative.

Judge Ashman gave as his opinion that the greatest evil lay in the demoralization of the public conscience and giving rise to pauperization. He suggested as a remedy that patients should be made to make a statement of their means and resources and thought a new statute would be required to make falsehood punishable by law.

Drs. Ashhust, Roberts, Risley and Professor Frise form the committee to carry on the work.

Philadelphia will Try to Prevent Tuberculosis.—The Pennsylvania Society for the Prevention of Tuberculosis will endeavor to get the Board of Health of the above named city to protect individuals against infection by the tubercle bacillus. The method is to abate the nuisance of expectorating on the public sidewalks, where the dust carries the organisms through the atmosphere, to be subsequently inhaled.

Ptomaines in an Oyster Stew.—Alfred Hirst, a young man living at Jenkintown, Pa., recently ate an oyster stew and shortly afterward became sick with symptoms of acute poisoning. After entrance to the Cooper Hospital, Camden, N. J., he was given an emetic, which acted promptly, and for some time afterward he became better. Later in the day, however, more urgent symptoms came on, in which the patient suffered from intense pains in epigastric region, accompanied by excessive heat and profuse perspiration. The patient again rallied and recovered to such an extent that early the next morning he was able to be up and around the wards of the hospital. An hour and a half later the patient again collapsed, and death ensued before medical relief could be afforded. Coroner Lippincott held the autopsy and pronounced the case as one of ptomaine poisoning.

Experiments Being Made Relative to Tuberculosis among Cattle.—The State Live Stock Sanitary Board of Pennsylvania has built and fully equipped a farm corresponding in every respect to those now used by dairymen throughout the state, in which there will be placed six cows—three healthy and three tuberculous—so arranged that the healthy and diseased ones will be opposite one another. Every detail is being carried out so that the experiments may be most complete, even to the placing of dry straw above the cattle.

From time to time the stable will be entirely cleaned throughout, so that no outside agency can interfere. The building has been placed on the grounds of the Veterinary Department of the University of Pennsylvania, and will be under the supervision of Dr. Pearson, State veterina-

rian, Dr. W. S. Shaw, formerly resident of the hospital, and Dr. Ravenal, bacteriologist. Having heretofore had such success in diminishing the number of affected cattle through the agency of tuberculin, this new and later experiment is looked forward to with great interest by members of the State Sanitary Board. E. A. W.

SOME THOUGHTS ON HEMOGLOBINURIA (SO CALLED).

A friend has sent me a reprint of an article by Albert Woldert, M.D., entitled, "The Use of Quinine in Malarial Hemoglobinuria," and asks my opinion of it. It appears in April issue of New York *Medical News*.

It shows evidence of patient study of the subject and the authorities quoted seem to be about on a par as to entire difference of opinion as to the value of quinine in this trouble.

The opinions quoted are mostly from sections where malaria is of the milder forms. I am much pleased with one idea in the article, the author does not insist on the "plasmodium" being the cause of the paroxysm of the disease, and quotes authority of Bostianelli, of Italy, as follows: "That the instances (in the Campagna, Italy,) of spontaneous hemorrhage due to quinine occur in those individuals who have recently had an attack of malarial fever, although the *plasmodium cannot be found in the blood* at the time of the onset of the hematuria. If not there in previous malarial trouble, where are they found? For a good many years I have had my doubts about the bacillus as a cause of disease, and this is the third of the most deadly and troublesome diseases which can and do exist and *no microbes* found in the blood; viz.: diphtheria, typhoid, and now malaria. Also the authorities quoted differ as to the effect of quinine in large and small doses. They say quinine in small doses is not a depressant but a stimulant, while "in large doses it lowers the arterial pressure due to action of the heart and its paralyzant effect on the vasomotor system." Right here, let me say, I never yet in forty years of constant watching of the effects of the drug, in my own body and those of hundreds of others, *I have yet to see the sedative dose of quinine.* I have given it in 1 grain doses to infants and 30 grain doses to adults and I have found (leaving out a few idiosyncracies) always the effect is proportionate to the dose given. I contended twenty-five years ago that quinine was a stimulant and within a few years it has come to be acknowleged as a fact. It is a little curious that at this day it should be asserted that ten grains of quinine is a stimulant and thirty to sixty grains is a sedative; one-thirtieth grain strychnine is a stimulant and one grain kills by overstimulation. Ten grains of quinine stimulate.

Has it been proven that thirty to forty grains *has not killed* by the same "over-stimulation" which, like shock, paralyzes the nerves which control the heart?

That it is a powerful drug none can deny. Quoting from "reprint": "Ringer speaks of a case in which the administration of quinine always caused a uniform red rash over the whole body, most marked on back of the neck and in clefts between fingers. Desquamation, followed as free as after an attack of scarlet fever."

"Quinine sometimes produces large erythematous patches, urticaria, swelling of face and hands, tingling of toes and fingers, gastric irritability, with nausea and vomiting. Wood reports a case of amaurosis produced by a dose of twelve grains." To these might be added tremendous swelling of tongue, deranged eyesight and loss of hearing, as well as taste. In two cases entire loss of sense of smell. One of these last cases is myself, which followed my second attack of hematuria, brought on by three three-grain doses of quinine. The mistake which the writer has fallen into is mixing things. Hemoglobinuria, as I understand it, and as the authorities seem to define it, is broken down blood corpuscles, the coloring matter being excreted with the urine, and tinging it of a deep red color. This coloring will settle in the chamber as a kind of slime and the clearer urine can be poured off leaving this slime adhering to the inside of the vessel.

Hematuria, as I understand it, is healthy *blood corpuscules* with the fibrine in it, that will clot in a mass on the ground, or in a chamber, and very little urine mixed with it. Hematuria is *blood* in place of urine. The patient passes blood from the bladder. I allow that some have passed blood from the bladder and kidneys who do not take quinine. I have known a pretty free hemorrhage to follow twenty drops of turpentine, as also tincture of cantharides. But I must insist that the high-colored urine of typhoid and some malarial conditions *is not hematuria* proper. The writer, Dr. Woldert, speaking of this high colored urine as caused by broken-down blood corpuscles in other diseases, says: "Owing to the action of the toxine upon the red blood cells a process of necrobiosis begins, leading to disintegration and degeneration, setting free the hemoglobin which dissolves in the blood plasma, and a certain portion of serum albumin is excreted by the kidneys. And we have no right to believe that the congestion and the hemoglobinuria or hematuria arising from malarial fevers differs in its mode of production from this observed in any of the other varieties of infectious disease."

Right here is where the doctor is right, if he will confine the *name* to the broken down *coloring matter of the blood* found in the urine. But as I said, and as hematuria is undertsood in this section, coloring matter in the urine is *not pure arterial blood.*

Let me explain a little:

In the South there are several forms of chills called "every day," "every other day," "third day," "agues," in which there is shaking with cold for more or less time (from a few minutes to an hour or more). "Dumb chills" in which there is no ague, and no apparent prodomic stage; but comes on with excessive vomiting and high fever, and passes off in eight to twenty-four hours, with a sweat, the fever often running up to the time of the next paroxysm, so that the patient seems never to break off before fever; but the fever seems simply to subside and rise again. All of these forms are treated much in the same manner, as the cause is constipation and consequent poisoning of the blood by absorption from the bowels of foul matter. The first course is to clean them out, prevent return of chill and strengthen digestion, thereby the blood, between attacks.

But in all there is a prodomic stage called by me the "first" or *congestive stage.*

Allow that the patient has been feeling badly for several days; he has taken calomel and podophyline several hours previously, and for three or four times, an hour apart, he has taken every hour three to five grains of quinine. Now just while this congestive stage is passing into the chill he desires to urinate, and passes several ounces of pure blood, which is arterial or veinous, which clots in the vessel, turns of a brighter red on exposition to the air. In an hour he again passes the same amount of same material. It is stringy, shows fibrine in it, very little urine. Also so that the stream is not thrown in a full jet as usual. For several seconds the blood drips from the urethra, leaving a stringy clot of an inch or more hanging. This is what *I call hematuria*, and which I have seen in male and female in over a hundred cases in Louisiana, and in every case it has followed *small doses of quinine*, which our authorities admit are stimulating. Also, I will add, I have never seen in malaria a case where pure blood has come from the bladder and kidneys except where quinine had been used, and then in not excessive dosage as to age. I will add that in eight years I have not had a single case of hematuria in my practice except *one*, which (in a three year old boy) was brought on by three small doses of "tasteless syrup of quinine." I might say that in eight years I have not had a single case where my present plan of treatment is carried out.

It is no use to mix things up. Call two entirely different conditions by the same name, and proceed to treat both by the same plan. Or treat the milder and least dangerous form with a medicine that in the other has been dropped by every intelligent doctor in the South, and say the same medicine (quinine) is applicable to both forms of the disease. Reasoning from analogy, if a medicine will cause a condition, continued in use it will intensify the condition. Let us see what is the cause of "hematuria."

"Bemiss believes the condition (hemoglobinuria) to be due to a combination of altered blood pressure, impaired nutrition of the vessel-walls, and changes in the vascular pressure in various congested organs," (quotation from reprint). This is *true to a fault.* Now, while the congestive stage is on, while the large vessels on the inside of the body are being filled to overflow with blood from the smaller ones in limbs and skin, and stretched to full tension by this blood, the stimulant dose of quinine, taken hourly for three or four hours, is just putting in its work. What is the effect? Rupture, of course, of some of "impaired vessel wall," into the brain, lungs, bowels or kidneys—if

into the latter we have what is known here as "swamp fever," "hematuria," etc. But is it not only a symptom of a trouble? Is it not caused by giving a stimulant when a sedative should have been given? And if still continued would that which causes an effect once not cause it again? John D. Hammond, M.D., (formerly of our parish), demonstrated in 1879 that "congestion repeated runs into inflammation, and unless measures are taken to prevent the return of the congestion inflammation will set in in the injured organ," and in the excreta from the bladder will be found (on standing in a vial) three strata. Blood at the bottom, pus next, and urine on top. When this shows up you need not give anything more, as in twenty-four hours or less the patient will need an undertaker. I have seen quinine pushed in these cases frequently, and have seen the subject carried to the cemetery. But if quinine is dropped, strychnia and arsenic, with turpentine, substituted, and chloroform or acetaniliy is given the patient will recover if the above "three strata" have not shown up in the urine.

In this matter I am speaking from my own observation of the disease, malaria, as I see it almost every day. A writer recently remarked that "in our state (Louisiana) 90 per cent. of the diseases were non-malarial." If this is so how is it affirmed that nearly every disease in malarial countries is *complicated* with malaria?

Not that I believe the assertion by any means; but the same contradicts the assertion of pro-quinine writers in every respect.

Another hints very broadly that "where I have had success in treating disease without quinine that the disease was not malarial in character."

Another still says, "Unless you have demonstrated the presence of the plasmodium in the blood you are not sure of the case being malarial." To the first I ran back over my case book for seven years past, and find 47 per cent. of them marked "chills." To the second I say I do not believe that malaria complicates any of the diseases in our country (state). To the third I answer that forty years' constant study of the one disease should give a man some knowledge of what he is treating, and that in eighteen years I have treated over 2,000 cases *resembling in every* respect typical malaria in all its forms, and have used very little, if any, quinine. Chloroform and acetanelide to abort the chill, calomel to clean the stomach and bowels, arsenate of strychnia and "acid iron tonic" (nitro-muriate of iron) to tone up and strengthen the blood and body.

To the fourth I answer that I am not, nor ever have been, a believer in the "bacillus as the cause of disease," and have had my idea confirmed, first, in the downfall of the diphtheria bacillus; second, in that of the typhoid, and third, by Bastianelli of Italy, that "spontaneous hemorrhages due to use of quinine occur in those individuals who have had an attack of malarial fever, although the *plasmodium cannot be found in the blood* at time of the onset of hematuria." (Italics are mine.)

That quinine is the cause of the rupture of the blood vessels in various parts of the body I am thoroughly satisfied, as I have twice seen its effects in my own body following the dosage in first attack twenty-five grains, and in second of nine grains of quinine.

It is not necessary to say that in the lungs and bowels the rupture is rarely followed by death. Into the brain, however, in very young children (under five years) it is almost invariably fatal. In the older and middle-aged not so much so; but the sufferer is never the same man, mentally or physically, that he was previous to attack. That in rupture into the kidneys, if quinine is persisted in, 90 per cent. die, because the congestion runs into inflammation and the two diseases bring on uremia and death.

It is a common observation in this state that the use of "quinine to destroy the plasmodium in the blood" brings on what is called "chronic chills." The system getting accustomed to the quinine, larger doses must be taken to produce effect, so that finally the case is confirmed and almost incurable—a sort of quinine cachexia.

In these cases I have found compound tincture of iodine, five drops three times a day, immediately after eating; and ten drops acid iron tonic for adult, in four ounces water one hour before eating, with bichloride of mercury preceding the same. The bichloride is given one and one-half grains in eight ounces water, one teaspoonful every two or three hours till it operates. Then stop it, and go on with the iodine and "acid tonic."

It will be seen that quinine enters very little into my confidence in treatment of any form of malaria.

BEN. H. BRODNAX.

Brodnax, La., May 25, 1898.

SOME REMARKS ON APPENDICITIS.

It was with unabated interest that I followed the controversy on appendicitis between Dr. M. O. Terry and Dr. Robt. Morris, for it happened, fortunately, that I had a number of cases under treatment at the time, and also have the records of a number of others.

It would be assumption on my part to take issue with either of the gentlemen, for I am conscious of their professional standing. However, from what clinical experiences I have had in appendicitis, I must agree with Dr. Morris, for I have never known a case to be absolutely cured save by an operation. And here I wish to be understood to mean, a case cured without a repetition of an attack. Though my experience has been limited, and not as extensive as either of the gentlemen named, yet in all of the cases I have ever had, I doubt if ever a case of appendicitis is cured without an operation. However, I do believe that there are cases that may have repeated attacks and live to die of some other disease. And here presents an interesting question: What is the pathological condition of those cases that would prompt us to discountenance surgical interference? In a case I recently successfully operated upon, in which there had been four attacks within three years, I found the appendix apparently normal though bound down by adhesions to the intestine and abdominal wall. There had been scarcely any temperature, pulse varying between eighty-five and ninety per minute and general condition good. The principal feature of the case was the diffused pain over abdomen for the first two days, localizing itself in the right iliac fossa—no tympanites nor dullness, but pain upon deep pressure.

The patient, being a laboring man, was often subjected to very heavy lifting, which would always cause pain—in fact he attributed all his attacks to this cause. By resting and the administration of salines, he would be tided over these attacks—though always conscious of some pain at McBurney's point. Now, it is not possible that the original attack was an inflammatory state of the intestines resulting in these adhesions, and that the subsequent attacks were brought on by pulling on these adhesions from the heavy lifting. Then, it is not plausible to assume that when these attacks occur in one who is not subjected to violent efforts that they are not imminently dangerous and are amenable to medical treatment. In a recent case in which I was called on a Sunday morning, I found a temperature of 101 degress Fahr., pulse 115 per minute, pain general, though intensified over the right iliac fossa, tympanites, vomiting and constipation. The internal administration and injections of oil brought about free movement of the bowels but no improvement in his general condition, for Monday morning I found the same conditions that existed the day before, and Tuesday evening I concluded that there was an imperative demand for surgical interference. I was so very sure of my case that I did not deem it necessary to have a consultation of the hospital staff (the case was at the City Hospital). I had even gone so far as to have the patient placed upon the table and prepared for operation. But, seeing that the unanimous opinion was against surgical interference, I had the patient removed to the ward and again commenced with the oil treatment. There was no improvement the following morning, nor did I expect any. However, I was advised to continue with my treatment as the patient was thought to be doing well enough. Thursday morning consultation again forced me to desist from operating, but finding no improvement that evening I decided, upon my own responsibility, to operate, as word from the hospital informed me that the pulse had gone up to 120 and temperature down to 97 degrees Fahr. The patient now was beyond help, and in a few hours was dead.

Post-mortem found a gangrenous appendix with the lower half-inch sloughed off; septic peritonitis and mortification of the intestines.

Could the oil have done any good in this case? In my humble opinion, I think not.

I could relate a case similar to this one, but as I have

already imposed on the good nature of the reader, I desist. The records of the other cases show from two to four attacks, and with one single exception they are becoming more frequent, and in this case, violent bicycle riding causes pain in the region of the appendix.

HARRY T. MILLER, M. D.,
Surgeon in Chief,
Mitchell-Thomas Hospital, Springfield, Ohio.

To the Editors of THE MEDICAL TIMES:

I have read a good deal in the journals lately about a prospective union of the "Schools," about the "abnegation of principles," "what constitutes a true physician," etc.,etc., and really, the more I read the less I think I understand the true situation, and I appeal to you, Messrs. Editors, to enlighten me on several points where my ignorance seems to be peculiarly dense. I understand that the "old school" societies have invited all legally constituted physicians to join with them, asking that they "abnegate sectarian principles and practice." Does this mean, Messrs. Editors, that if I should apply for membership in one of those societies, I must cease to believe in the doctrines of Hahnemann, one and all, and that I must no longer practice medicine, giving drugs in larger or smaller doses in accordance with the alleged Homeopathic law?

Does it mean that I would be expelled from such society if I made reports of cases there, recounting the effects of such doses prescribed in such manner, or does it simply mean that I must cease to exploit myself as a Homeopath—a practitioner following a specific law and no other? Has a member of the "old school," the regular, the Allopathic society, as much freedom of thought and as much freedom to express that thought, as does the member of the Homeopathic society?

I was once a member of a "Homeopathic society" and in joining it avowed my belief in the "Homeopathic law," and that my practice was in accordance with such belief. Age and experience unsettled my belief and largely modified my practice and I felt it was no longer honest to profit by membership in such a company, nor to ask them to, in any sense, be responsible for my vagaries. I believe it to be true that the vast majority of the members of "Homeopathic societies" are quite as much strays from the field as I am, and I do not understand how they can conscientiously retain their membership in an association that requires such a pledge—that, however, is none of my affair, and I will not attempt to explain it.

I have read Dr. Shelton's Presidential address before the Co. Hom. Med. Soc. and I confess I do not understand that. It starts in such a manly, independent way, and winds up so weakly—as if the doctor had been nudged sharply as he proceeded and had been told he was going too far—and then had endeavored to conciliate his admonishers, but this couldn't be, and even if it was so I couldn't expect you to give me light on the subject. How long since, dear doctor, did the small dose cease to be an essential of homeopathy? Hahnemann so taught, and the apostolic few who immediately succeeded him and were supposed to be the depositary of the Master's truth, both believed and taught it. Why, I remember in my student days seeing Dr. T. F. Allen prescribe the 500th potency of cinnabar for a corroding chancroid, whose progress was so rapid you could almost see it grow and at a subsequent clinic the case was shown improved, and held up as an example and a brilliant one of the success of Homeopathy.

"It is only by the use of the minutest homeopathic doses, that the reaction of the vital power shows itself simply by restoring the equilibrium of health," says Hahnemann in the Organon.

Hahnemann ultimately gave at times. his medicines in the highest potency by olfaction. I am told that even so "good a homeopath" as Dr. Allen. long since ceased to give infinitesimal doses. I cannot see why it is any more a crime to doubt the universal applicability of the law of similars. than it is to throw over Hahnemann's doctrine of infinitesimal doses, and this is another thing I want you to explain to me. Have not men like Dr. Allen and Dr. Shelton ceased to be Homeopaths in any full and complete sense of that term?

Is it not a fact that thousands upon thousands of men calling themselves homeopaths, have not only given up the infinitesimal dose but the single proven drug, and that their average daily prescriptions are made utterly regardless of Hahnemann's law of similia?

Dr. Shelton thinks he sees in the use of serums and antitoxins. something seriously akin to homeopathy; this may be so, but again my ignorance blinds me and I am Hahnemannian enough to believe with Hahnemann himself that "nature affords but few instances in which one disease can homeopathically destroy another, and her remedical resources in this way are encumbered with many inconveniences."

I have only asked you a few questions that come first to my mind, Messrs. Editors, but I trust you will be willing and able to answer them.

[The questions of our esteemed correspondent are too much for us. We cannot satisfactorily answer. We should be glad to publish answers to these interrogatories from such as are able and may see fit to favor us. It would be proper, I think, for some officer of the County Medical Society to elucidate the first question.

As to what constitutes homeopathy, there will always be a difference of opinion, and no good purpose will be subserved in discussing it.

It is "abnegation of *sectarian* principles and practice," which we understand to be required for membership in the County Society. The use of smaller doses of drugs, according to any indications, does not constitute sectarianism, and it would be hard in these days to say what does constitute it, excepting the use of a name such as "Homeopath."—EDS.]

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

Phosphate of Strychnine During Gestation—Dr. W. B. Dorsett (*Med. Rev.*, Sept. 11, 1897) speaks with enthusiasm of the good effects from the continuous administration of this roborant remedy to weak and debilitated pregnant women. The patient is placed in good condition to sustain the ordeal of labor, which is generally made less tedious, painful and dangerous than it would otherwise be.

Radical Cure of Hernia by Injections of Chlorid of Zinc. Demars (quoted in *University Med. Mag.* for Sept., 1897) reports six cases of inguinal hernia treated successfully by this method. Six hypodermic injections were made in each instance, three into the external pillar and three towards the pubes, using twelve to fifteen drops at a time of a 10 per cent. solution. Some edema of the surrounding parts resulted, but proved to be of no importance.

Nasal Mucous Membrane as a Remedy.—Dr. Rivière, of Lyons (*Lyon Médicalé*, Sept. 19, 1897), reports that he has employed in the treatment of a certain number of nasal affections a fluid extract of the pituitary mucous membrane prepared by Dr. Jacquet in the following manner: The mucous membrane of the middled and lower turbinated bones of the sheep is macerated for twenty-four hours, at a temperature kept at 149 degrees Fahr., in water containing four parts of resorcin in a thousand; the liquid is then filtered and subjected to the same degree of heat for twenty-four hours more. The results of the use of this preparation, says Rivière, are analogous to those produced with other substances that are efficient in cases of perforation of the septum, rhinitis sicca, and rebellious syphilitic disease of the nose. In a grave case of ozena that had relapsed after various sorts of treatment, including the employment of electrolysis, applications of the pituitary extract, after cleansing, were followed by a rapid subsidence of the odor and when by greater benefit in every way than is generally obtained by the use of procedures less innocent or more difficult.

Treatment by Suggestion with and without Hypnosis.—John F. Woods, in the *Journal of Mental Science*, No. 145 (*Amer. Med.-Surg. Bulletin*), reports the results obtained by him by suggestion with and without hypnosis. Cases of chronic alcoholism, neuralgia, headache, gout, dyspepsia, rheumatoid arthritis (in which cases manipula-

tion was coupled with suggestion), chorea, insomnia, writers' cramp, delirium tremens, nocturnal incontinence, and stupor were, in some instances, cured, and improvement resulted frequently, while occasionally no improvement was noted.

A number of epileptics were markedly improved, as were two cases of tabes dorsalis, two of masturbation and one of hysteria.

Dr. Woods' report is interesting in the extreme, furnishing as it does data which must dispell, to some extent at least, the skepticism which pervades the minds of the medical profession regarding the therapeutic value of suggestion. We have yet to see in this country results such as are claimed abroad, and investigations along these lines are to be encouraged.

Occlusive Dressing with Airol Paste.—P. Bruns, of Tuebingen (*Beit. Z. Klin. Chir.*, xviii., No. 2; *J. A. M. A.*) recommends his airol paste in the highest terms as an ideal dressing for sutured wounds. It dries rapidly and sticks closely, it is powerfully antiseptic and absolutely unirritating to the most sensitive skin, but its chief advantage is that it allows the secretions to ooze through it. He has been using it for six months, especially after laparotomies, herniotomies and ignipunctures, and has not had a single stitch-hole suppuration with it. He concludes with the statement that occlusion with ariol paste insures in the simplest manner a flawless *prima intentio*. His formula is: Airolmucili. gummi arab., glycerin, aa., ten parts; bolus albus, twenty parts. He uses it even in wounds with drainage.

Permanganate of Potassium in Lupus.—Dr. Kachanovsky, of St. Petersburg, read a paper on this subject at the Moscow meeting of the International Medical Congress. He employs powdered permanganate of potassium. The powder, freshly prepared from dehydrated dried crystals, is applied in a layer, three to five millimeters in thickness, over the whole surface of the lupus and the suspected portions of the surrounding tissues. In case of deeper ulcerations with undermined edges, the powder is applied after curetting two or three times in order to level the uneven surface. In all cases a layer of medicated cotton is put over it to keep the powder in place and absorb the secretions and eliminated material. In most cases a single application of the powder suffices. He has employed the powder now in more than thirty cases since 1878, and always with complete success.

Dr. W. W. Winthrop, of Fort Worth, claims that *Viola Sagittata*, the spear-eared violet of Florida, known as Husa, is an infallible cure for the opium habit. It should be thoroughly tested.

RETROSPECTIVE DIETETICS.

Treatment of Acute Rickets.—Dr. Young showed the value of dietetic and hygienic treatment in a recent case of acute rickets (*Phila. Polyclinic Journal*). The use of modified milk with excess of fat from the Walker-Gordon laboratory, together with a modified diet, a salt bath in the morning, and an oil rub at night, caused an immediate disappearance of all the acute symptoms within forty-eight hours. The temperature also fell to normal and remained so. The early recognition of acute rickets and its proper treatment cannot be too strongly emphasized.

Diet Treatment of Headache, Epilepsy and Mental Depression: Alexander Haig, M.A., M.D., Oxon., F.R.C.P. in *Brain*, Summer number, says: Those headaches associated with an excess of uric acid in the urine are treated by excluding from the diet all fishes, meat, eggs, tea, coffee, and cocoa, and giving milk, cheese, pulses, cereal foods, and fruit. From the change of diet the nutrition of the patient is lowered, so that the stored reserves of uric acid flood the blood, and, besides, many vegetable foods introduce more alkali and less acid into the body than do the animal foods interdicted, and thus increase the alkalinity of the blood, and flood it with uric acid. For these reasons an increase of headache occurs in the beginning of the treatment. To tide the patient over the period of excessive headache, a mixture of bromide of ammonium and salicylate of ammonium is given. However, this plan of diet is to be persevered in, for the increase of headache, in the beginning of the treatment, when the first rush of uric acid occurs, is to be regarded rather as a favorable than an unfavorable sign.

In mental depression the same diet is used, and, to conserve the patient's strength and energy, he is put to bed with most happy results.

In the treatment of epilepsy success was not so well marked; but a thorough trial of treatment is insisted upon before the plan is abandoned. Here, too, an increase in the number of convulsions may occur in the commencement, which, however, is not to be regarded as unfavorable.

The Diet in Tuberculosis: Raw meat reduced to a pulp, says M. Grancher, in the *Journal de Medicine de Paris* for May 9, 1897, (*N. Y Med. Jour.*) is one of the best foods that can be recommended for a tuberculous patient. It may be taken in any way the patient pleases; in hot or cold bouillon, mixed with a little brandy or the yolk of an egg, or with a *puree* of potatoes, etc. The method of preparing this pulp is of great importance, and M. Grancher gives a detailed account of how it should be done.

This pulp, with eggs, forms the basis of the "diet of recovery." When it is given in amounts of from three to six ounces and more it does not overload the stomach. It may be taken with the two principal meals or as a light luncheon. It is quickly digested and easily assimilated. It is very superior to the meat powders, of which patients quickly tire; to the peptones, which are frequently impure; to the American consommes, and to the Leube-Rosenthal solution, all of which preparations are much less natural and less easily assimilated. From time to time the employment of this meat pulp should be interrupted, especially in the beginning, if diarrhoea sets in or if the patient becomes disgusted with it; afterward it may be given again in very small quantities, and slowly and progressively increased.

M. Grancher thinks that meat juice may be used as a substitute for the pulp for a few days every month, in order to avoid weakening the stomach or disgusting the patients; but he does not advise its steady employment, as it is very inferior to meat pulp or eggs. The latter, he says, are as valuable as the meat pulp, as they contain much nitrogen and a fatty substance which is very finely divided and assimilable. The yolk, with or without cream, is a valuable adjuvant to this diet. Milk in small quantities is also a good article of diet, but very inferior to the first two; it is used more especially as a vehicle for other foods; it may be used, however, as a drink at meals. It is an excellent quieting diet when the stomach is weak, and it is necessary to put it on a comparative diet for a few days. Milk powders and peptonized, diastatized, or humanized milk are not to be recommended. Kumyss may be useful sometimes when the appetite is poor and the intestine is irritable and easily made to contract. Kephir is useful when the stomach secretes an excessive amount of hydrochloric acid, especially as a medicine. Milk should always be boiled or sterilized.

M. Grancher recommends cereals, especially rice, which, he says, is perfectly digested if it is cooked properly. Dry vegetables, such as beans, peas, etc., are good articles of diet; green vegetables may be considered only fairly good, as they are composed chiefly of water and cellulose. Desserts, with the exception of cheese, particularly gruyere, and cooked fruits without butter and without sugar, are to be avoided. As a substitute, custard, not very sweet, may be eaten.

THE Mellier Drug Co., St. Louis, whose Tongaline and Ponca compounds form a part of almost every physician's favorite prescriptions in rheumatic and uterine troubles, has issued a very beautiful engraving of the first meeting of the Medical Society in London in 1773. The portraits of some of the most eminent men in medical literature of that day are correctly given. The engraving will form a beautiful and interesting ornament for any physician's office.

OBITUARY.

DR. JOHN BLAIR GIBBS, who was killed in the night attack of the Spaniards at Guantanamo, was the first commissioned officer of the United States to fall on Cuban soil. Dr. Gibbs occupied a high scientific and social standing in this city, having a large and lucrative practice. The father of Dr. Gibbs was a major in the Seventh United States cavalry and fell in the Custer massacre.

ORIGINAL ARTICLES.

OBSERVATIONS ON THE BLOOD OF TUBERCULAR PATIENTS.*

By George W. Johnson, B.S., M.D.,

Medical Superintendent of the Cook County Infirmary; Late Chief Male Physician to the Cook County Hospital for the Insane, Chicago; Fellow of the American Academy of Medicine, Chicago Medical Society, American Medical Association and Illinois State Medical Society, Chicago, Ill.

THESE observations were made on patients in the advanced stage of the disease with cavities, and at times hemoptysis.

The question has been asked by Cabot and Klebs, "What is the cause of the apparent anemia in tubercular patients?" Cabot and others have found that it is not due to a reduction in the hemoglobin, and the same authority states that in uncomplicated tuberculosis the number of red corpuscles remain practically normal.

In my observations, especial attention was paid to the patient's physical condition, as to cavities and hemoptysis. The observations were made just before meals, and no attacks of hemoptysis occurred between the first and second examination. The patients were up and out of doors most of the time during the day. The microscope was used to compute the blood count.

Of thirty-three patients examined, all had cavities of various sizes, and all had had hemorrhages or hemoptysis. Of these thirty-three cases, twenty-five were found to have a leucocytosis; that is, their white cells ranged above 7,500 per c. m. Cabot makes this number as a normal basis. The twenty-five having leucocytosis also showed cavities. Cabot and others state that there is always a leucocytosis when there are cavities and after hemorrhages. Nine of the thirty-three showed a red blood count of 5,000,000 or above, which Cabot also states as a normal basis. The remaining twenty-four showed a red cell count in many instances far below 5,000,000, and in no case was the hemoglobin up to normal. In only one case did it reach 75 per cent. Thus we have a diminution in both red cells and hemoglobin, therefore anemia, while the white cell count showed leucocytosis. These observations agree with Cabot as to leucocytosis, but not in the red cell count or hemoglobin percentage. Perhaps these cases were more advanced than the ones he observed, and also had more mixed infection.

Having made observations to determine the character of the blood, I also made some therapeutical observations, using 5 per cent. nucleinic acid, No. 2, in the first ten cases; 5 per cent. nucleinic acid, No. 1, in the second ten cases; ferratin in six cases, and heminol in five cases. The first ten were given 22 c. c. every four hours for twenty-four hours. The second blood observation in the first ten cases showed six out of the ten to have a still greater leucocytosis. The red blood count was practically unchanged. The hem-

* Read before Illinois State Medical Society, May, 1898.

TABLE No. 1.

No.	Date.	Sex.	Age.	Family History.	Duration.	Hemoptysis.	Sputum Analysis.	Physical Condition.	Red Cells Per C. M. M.	Per Cent. Red Cells.	Per Cent. Hemoglobin.	Corpuscles Index.	White Cells Per C. M. M.	Treatment and Remarks.
1	5-2-'98	M.	46	Negative.	2 yrs.		T. B. Absent.	Fairly Nourished.	4,936,500	98.7	75	75.9	14.910	
									† 4,984,800	99.6	52	52	?	
2	5-2-'98	M.	58	Do.	?		T. B. Present.	Fairly Nourished.	4,984,800	99.6	73	72	11.020	
									† 5,065,200	101.2	75	74	8.190	
3	5-2-'98	M.	32	Do.	9 yrs.		T. B. Present.	Fairly Nourished.	5,540,000	110.8	70	63.1	10.290	
									† 5,236,000	114.8	70	67	13.860	
4	5-4-'98	M.	49	Do.	5 yrs.		T. B. Present.	Fairly Nourished.	5,609,920	112	60	53.5	9.870	
									† 4,422,000	88.4	53	59	8.610	
5	5-4-'98	M.	25	Do.	1 yr.	P.	T. B. Present.	Emaciated.	3,778,800	76.4	55	72.9	8.190	
									†		60		12.180	
6	5-4-'98	M.	67	Tubercular.	4 yrs.	P.	T. B. Present.	Fairly Nourished.	4,261,200	85.2	45	52	5.880	
									† 4,341,600	86.8	55	63.3	7.210	
7	5-4-'98	M.	39	Negative.	13 yrs.	P.	T. B. Present.	Fairly Nourished.	4,100,400	82	63	76.8	6.300	
									† 3,537,600	90 6	65	92	5.880	
8	5-4-'98	M.	46	Tuberculosis.	6 m s	Ab.	T. B. Absent.	Fairly Nourished.	5,502,000	110	35	31.8	8.450	
									† 5,475,640	109.4	40	36.7	15.990	
9	5-4-'98	M.	52	Tubercu losis	4 yrs.	P.	T. B. Present.	Fairly Nourished.	4 180,80	83.6	60	71.8	6.300	
									† 4,631,040	92.6	60	64.8	7.350	
10	5-4-'98	M.	75	Negative.	?	Ab.	T. B. Present.	Fairly Nourished.	4,341,600	86 8	55	63	5.250	
									† 4,100,400	82	60	73.1	9 660	

† Second examination after the administration of 5 per cent. Nuclein No. 2 for 24 hours.

TABLE No. 2.

No.	Date.	Sex.	Age.	Family History.	Duration.	Hemoptysis.	Sputum Analysis	Physical Condition.	Red Cells Per C. M. M.	Per Cent. Red Cells.	Per Cent. Hemoglobin.	Corpuscles Index.	White Cells Per C. M. M.	Treatment and Remarks.
11	5-6-'98	M.	50	Tuber-culosis.	1½ yrs.	P.	T.B Present.	Fairly Nourished.	5,049,120	100.8	55	54	19.380	
									*5,386,800	109.6	70	65	15.990	
12	5-7-'98	M.	44	Negative.	1½ yrs.	P.	T.B. Present	Poorly Nourished.	3,296,400	65.8	45	69.9	12 810	
									*		40		6 930	
13	5-7-'98	M.	40	Do.	6 yrs.	P.	T.B. Present.	Emaciated.	3,78 ,120	75 6	75	99	10.920	
									*		78		9.450	
14	5-7-'98	M.	62	Do.	8 mos.	P.	T.B. Present.	Emaciated.	3,620,160	72 4	45	62.1	11.760	
									*		50		11 760	
15	5-7-'98	M.	26	Do.	1 mo.	P.	T.B. Present.	Emaciated.	3,537,600	70.6	40	56 6	15.120	
									*		60		18 270	
16	5-7-'98	M.	31	Do.	4 mos.	P.	T.B. Present.	Fairly Nourished.	4,341,600	86 8	63	72 4	11 550	
									*		60		9 870	
17	5-7-'98	M.	39	Do.	2 yrs.	P.	T.B. Present.	Fairly Nourished.	4,341,600	86.8	45	51	9.240	
									*		55		12 390	
18	5-7-'98	M.	43	D .	6 m s.	P.	T.B Present.	Emaciated.	4,048,000	86.8	85	105	7.584	
									*		75		6.510	
19	5-7-'98	M.	70	Do.	3 yrs.	P.	T.B. Present.	Emaciated.	5,137,560	102.6	55	53.6	7.980	
									*		55		7.980	
20	5-7-'98	M.	31	Do.	6 mos.	P.	T.B. Present.	Emaciated.	2.744,856	54 8	45	82.1	10.920	
									*		30		10.080	

* Second examination after administration of 5 per cent. Nuclein No. 1, for 24 hours, administered hypodermically.

oglobin showed an increase of from 3 per cent. to 10 per cent. in those cases in which there was a leucocytosis.

The second ten were put on the nucleinic solution, No. 1, which is chemically pure and for hypodermic use. Thirty minims were given hypodermatically every four hours for twenty-four hours. A second count in these cases showed the same condition as in the first ten, which wer given the No. 2 solution orally.

None of these patients complained of any evil effects, while, on the other hand, they all experienced a sense of well-being, and renewed energy. Their circulation was better, and the appetite improved. I have noticed repeatedly the splendid stimulating effect ot nucleinic acid in every

TABLE No. 3.

No.	Date.	Sex.	Age.	Family History.	Duration.	Hemoptysis.	Sputum Analysis.	Physical Condition.	Red Cells Per C. M. M.	Per Cent. Red Cells.	Per Cent. Hemoglobin.	Corpuscles Index.	White Cells Per C. M. M.	Treatment and Remarks.
21	5-12-'98	M.	47	Wife D'ed of Phthisis.	6 mos.	P.	T. B. Present.	Emaciated.	4,582,800	91.6	50	54	17.550	
									* 4,422,000	88.4	65	73	7.140	
22	5-12-'98	M.	27	Negative.	6 mos.	P	T. B. Present.	Emaciated.	5,708,400	114	75	65	9.030	
									* 5,065,200	101 2	70	69	9.660	
23	5-12-'98	M.	53	Do.	6 mos.	P	T. B. Present.	Emaciated.	3,710,560	74.2	70	94.3	10.200	Just Bathed.
									* 4 293,360	85.8	55	64	6.300	
24	5-12-'98	M.	53	Do.	1 yr.	P.	T. B. Present.	Fairly Nourished.	4,100,400	82	50	60	11.340	Coughs.
									* 4.422.000	88.4	50	58	13 020	
25	5-12-'98	M.	33	Do.	2 yrs.	P.	T. B. Present.	Poorly Nourished.	3,537,600	70.6	65	92	4.630	
									* 3.778,800	75.4	73	96	7.560	
26	5-12-'98	M.	48	Do.	9 mos.	P.	T. B. Present.	Emaciated.	4,020,000	80.4	40	49	7 770	
									* 4,160,800	83.6	48	57	17.640	

* Second examination after the administration of Ferratin for 24 hours.

case in which I have used it. In cases not tubercular I have had splendid results.

It is reported by Dr. Hahn, of the University of Munich, that the number of leucocytes can be doubled in a short time by the use of nucleinic acid, and Von Mayer, of Prague, reports an average increase of leucocytes of over 75 per cent. following the administration of nuclein. I have had a similar experience in cases not too debilitated.

Six cases were put upon ferratin. Five grain doses were given every four hours for twenty-four hours. A second examination of the blood of these six cases showed an increase in the leucocytosis. Four also had an increase in the red cells, with an increase of 15 per cent. in hemoglobin. In one other case, not tubercular, but violently anemic, after being on ferratin of three and a half grains, t. e. d., for ten days, showed an increase in hemoglobin of 27 per cent., and an increase of red cells of over 1,000,000 per c. m.

Five cases were put upon heminol, fifteen grain doses were given every four hours for thirty-six hours. A second examination of the blood of these patients showed an increase of the red cells in four cases. Three showed an increase in the number of white cells, and only two showed an increase in the hemoglobin percentage.

I do not consider these altogether fair tests of the value of hematinics inasmuch as the patients were almost moribund.

It is my intention to make a more extensive study of the blood in this class of patients with the view of determining, if possible, why they appear to be so profoundly anemic, when the examination of the blood shows them to be only moderately so. The blood of these thirty-three cases was stained and studied; in but two cases was there found a poikilocytosis.

TABLE No. 4.

No.	Date.	Sex.	Age.	Family History	Duration.	Hemoptysis.	Sputum Analysis.	Physical Condition.	Red Cells Per C. M. M.	Per Cent. R'd Cells	Per Cent. Hemoglobin.	Corpuscles Index	White Cells Per C. M. M.	Treatment and Remarks.
29	5-13 '98	M.	36	Negative.	8 mos.	P	T. B. Present.	Poorly Nourished.	3,216,000	64.2	55	85	8,190	
									* 3,309,200	77	40	51.9	12,8.0	
30	5-13 '98	M.	53	Tuber-culosis.	?	P.	T. B. Present.	Fairly Nourished.	3,698,400	73.8	60	81	10,920	
									* 4,100,400	81	45	55	17,855	
31	5-13 '98	M.	52	Tuber-culosis.	?	P.	T. B. Present.	Emaciated.	3,248,160	64.8	55	84	8,8.0	
									* 3,5 7,600	70.6	50	73.3	8,610	Nephritis...
32	5-13 '98	M.	23	Negative.	4 mos.	P.	T. B Present.	Fair'y Nourished.	3,698 400	73.8	55	79	15,121	
									* 3,459,200	69	60	86.9	12,810	
33	5-13-'98	M.	52	Tuber-culosis.	?	P.	T. B. Present.	Fairly Nourished.	4,50 ',000	90	60	66	10,718	
									* 5,316,040	106 2	75	70.7	16,590	

* Second examination after the administration of Heminol for 36 hours.

SOME DISORDERS OF DIGESTION.

By Geo. D. Kahlo, M. D., Indianapolis, Ind.

THE most common of the more or less chronic disorders of digestion is a condition which we ordinarily refer to by that convenient but somewhat indefinite appellation, dyspepsia.

The so-called dyspeptic state, if considered from a therapeutical standpoint, might be divided into two main categories, those in which there is hyperacidity and those in which the secretion of hydrochloric acid is diminished; but in view of the elements of causation, symptomatology, diagnosis and prognosis, we will classify it according as there is or is not inflammation of the gastric mucous membrane.

It must be borne in mind, however, that even with our modern methods of chemical analysis, it is not infrequently difficult, and sometimes impossible, to decide, in a given case, whether we are dealing with a functional or an inflammatory condition, and, if the latter, whether this is primary or only the result of a previously existing neuropathic affection.

We will consider first those cases having as their predominating symptoms an acid fermentation, or certain nervous phenomena, characteristic of a condition of the stomach which has been variously described by different authors as acid, nervous, nervo motor and atonic dyspepsia. In its milder forms, at least, it is purely a functional disorder, an irritation due to some disturbance of the secretory function of the gastric glands or a lack of proper motility of the organ itself. It may eventually lead to gastritis, but primarily is not accompanied by any inflammation.

The following are its chief characteristics:

Immediately or shortly after eating there is a sensation of weight or oppression at the pit of the stomach, sometimes, though rarely, amounting to actual pain. Occasionally we may find the latter as a reflex symptom referred to the head, the heart, the chest or the lower part of the abdomen. There is usually more or less abdomi-

nal tympanites, occasioning some difficulty in breathing, and when this is present is relieved by eructations of gas. In mild cases the appetite may be entirely preserved, but it is frequently capricious, and the patient complains of a bad taste in the mouth and disinclination for either physical or mental effort. The tongue is coated, the face congested and almost invariably there is obstinate constipation, sometimes alternating with attacks of diarrhea. Vomiting, except in very hysterical patients, is rare, and nausea the exception.

In addition to these, careful inquiry will usually lead us to the discovery of some slight mental depression, together with one or more of the symptoms which are associated with other neurotic conditions of a functional character.

Many of these phenomena, especially those referable to the nervous system, are in great measure due to the absorption of ptomains, a factor of more or less importance in all digestive disorders; and in like manner, gastralgia and certain respiratory and circulatory disturbances may be attributable to mechanical causes, the result of distention or dilatation.

As predisposing causes we have, besides hereditary influences, the gouty and rheumatic diatheses, anemia, chlorosis, etc.

Among those acting directly, we find in men too close application to business affairs, and in women, excessive exertion in the performance of social or household duties.

Closely resembling this condition, yet differing from it in many essential features, and, in a considerable number of cases, constituting a later stage in the history of this affection, is chronic gastritis, or, as it is sometimes termed, gastric catarrh. True gastritis is much less common than the functional condition, and I believe less frequent than is ordinarily supposed, as unquestionably many cases of so-called catarrh are really those of gastric insufficiency.

Gastritis, as we ordinarily meet with it, is very insidious in its development. Beginning with simple irritation it gradually progresses into a condition of gastric insufficiency, and finally, after a considerable period, merges into one of organic inflammation, without any sharp line of distinction marking these several periods.

Its symptoms do not differ materially from the condition just described, except, perhaps, that they are somewhat more severe, and are principally those which are referred to the stomach itself.

Instead of a feeling of fullness or oppression, there is actual pain, sometimes diffuse, at others circumscribed, and this is likely to be present irrespective of the amount of food taken, and to continue, with varying degrees of intensity, during the whole process of stomach digestion. Pain is a symptom of considerable diagnostic import, and Dujardin-Beaumetz describes its distinctive features as follows:

"If within two hours following a meal there is a sensation of heat or burning in the stomach, hyperacidity is present, and especially is this true if the burning is worse three or four hours after eating and occurs most frequently in the middle of the night. If there are eructations of gas, fullness and weight at the stomach, then there is diminished acidity, and, if pain occurs within fifteen minutes, with increasing severity, there is probably some organic lesion." Nausea and vomiting are almost invariable accompaniments of this affection at some period in its course. They generally occur toward the latter part of digestion and particularly in the early morning.

The tongue is usuaall red at the tip, furred at the base or, in cases of long standing, is bare, and perhaps shows the imprints of the teeth as it is protruded.

The appetite is variable; as a rule it is diminished; and occasionally there is great anorexia, in which case there is pallor and inanition.

The causes which may lead to such a condition are the same as those of nervous dyspepsia, with this difference, that in gastritis they are chiefly those acting directly as irritants to the stomach mucous membrane, viz., the abuse of alcohol and errors in diet.

In such a community as ours we can more frequently attribute it to dietetic errors, and among these I might enumerate the following (Martin):

Imperfect mastication, due to eating too quickly, the condition of the teeth, or the taking of too much liquid; improper cooking; foods that are overdone, twice cooked or too rare; too great bulk of food; the habit of eating three large meals a day: too great a preponderance of one or the other of the constituents of the dietary; among the poorer classes, too many vegetables, and among those well to do, too much animal food; an excessive amount of food accessories, such as alcohol, tea, coffee, spices, condiments, etc., and finally, the character of the food taken, by which I mean its relative acidity and state of preservation.

Any and all of these factors are capable of prolonging the stay of the food in the stomach, and this is the special cause of their evil influences. They all act as irritants, the first effect being an increased acidity, causing a delayed digestion, and this, in time, is followed by diminished secretion, a lessened motility, dilation and consequently imperfect absorption, tendencies which are all greatly aggravated by disturbances of function due to organic changes.

As constitutional causes, we have conditions affecting the quality of the blood supply, such as have already been enumerated; those producing a passive congestion of the stomach; as chronic diseases of the heart and lungs, obstruction to the portal circulation, etc., and finally, those acting locally, which include gastric ulcer, cancer, and recurring attacks of acute inflammation.

The diagnosis of these affections is made either from the subjective symptoms alone or these in connection with a chemical analysis of the stomach contents, either the matter vomited or that obtained by withdrawing through a tube after a test meal. The latter method is by far the most reliable, and in atypical cases is practically the only means of arriving at definite conclusions without repeated observations.

By it we are enabled to tell exactly the amount of acidity present, whether it exists as free hydrochloric acid, and whether or not there is pres-

ent in excess organic acids or mucus, all of them facts of sufficient importance to fully justify us in such a proceeding in any case of unusual obscurity or one not yielding readily to treatment. We may then undertake a course of treatment based upon a definite knowledge of the conditions as they exist.

Such an analysis in a case of gastritis would show us, first, that a considerable amount of mucus is present; second, that hydrochloric acid is either absent entirely or much diminished in quantity, and third, the presence in excess of other acids, such as lactic, butyric, or acetic acid due to abnormal fermentation.

In functional disorders mucus is absent, or is only present in very small amounts, and we may have either an increased or diminished acidity, more frequently the former.

As might naturally be expected, our improved methods of diagnostic technique have not only given us a better understanding of the gastric function, but a more successful therapy, and this relates to diet, medicinal, hygienic and mechanical treatment. In recent years we have learned to depend less upon the administration of drugs and to give greater attention to diet, general hygiene and local applications, such as lavage, electricity, etc.

The proper treatment to be selected will depend, first, upon the cause, then as to whether the condition is one of an irritative or depressing nature, and, if the former, whether the irritation is local or general. In no class of cases is there greater necessity for considering personal peculiarities, a fact which is often brought to our minds by seeing good results following methods which in themselves seem almost contradictory, and especially is this true in those of nervous origin.

Here the essential thing in most cases is to put our patient upon a proper discipline, and in dealing with intelligent persons it is well to explain to them something of the physiology of the digestive process, as in this way we may often secure their co-operation in many measures, the importance of which they would not otherwise fully appreciate.

In persons who are run down by overwork, the cares of business, or as a result of over-indulgence in high living or social pleasures, it is often only necessary to suggest a change in their manner of living or general surroundings to bring about a considerable amelioration of symptoms. A large proportion, perhaps a majority, of these cases will be found to have been leading sedentary lives, and when there is not too great a loss of physical power, a cold sponge bath on rising, together with a well-directed system of exercise, such as may be obtained by walking, riding, bicycling, etc., will often be attended with the greatest benefit.

Again, if the case is one of unusual severity, it may be necessary to advise a complete rest and a change of scene, or, perhaps, in hysterical cases, to resort to various applications of the principles laid down by Weir-Mitchell in the treatment of neurasthenia. The regulation of the diet in these cases is not usually a matter of great difficulty, as in many instances all that is necessary is to limit our patient to plain foods taken at regular intervals amid favorable conditions, the patient's own experience being the best guide as to what particular kinds of food will be found most digestible. Not infrequently we see cases which are dependent upon a faulty condition of the teeth alone, and it is always well to observe that there is no interference with proper mastication from this cause.

If hyperacidity exists, we must, of course, forbid the taking of acids and recommend articles rich in albumen, while restricting the quantity of starchy foods.

In gastritis the selection of a proper dietary is of the greatest importance, and, as in all other conditions, depends both upon the severity of the symptoms and individual idiosyncrasies.

Frequently these cases come to us after the disease has already progressed for a considerable period, and many of them, believing their condition to be dependent upon first one and then another article of diet, have restricted themselves to a regimen much below the requirements of a healthy nutrition; this, in conjunction with an insufficient appetite and a faulty assimilation, has resulted in more or less inanition.

Our object is to re-establish the gastric function and at the same time to give a sufficient quantity of food to restore the general health of the individual. If, as often happens, we are consulted during an acute exacerbation of the condition, it may be necessary, for a short time, at least, to put our patient upon an exclusive milk diet, or, if this is not well borne, to substitute such articles as koumiss, bouillon, malted milk or some food of like character as would seem best adapted to the case in hand.

In cases of less severity, or after some improvement is manifested, this diet may be supplemented by such articles as soft-boiled eggs, fish, broiled steak, chicken and a little stale bread or toast; these to be taken in small quantities, after comparatively short intervals.

As convalescence is established, we will gradually return to the regular diet by permitting larger quantities at a time and then adding to our list more of the carbo-hydrates, beginning with a little baked potato, or tender green peas, and finally, we have only to exclude such articles of known indigestibility as pork, veal, fats, coarse vegetables, salads, rich pastries, hot breads, griddle cakes, sweets, etc.

Medical treatment is always secondary to our other resources, and to be employed intelligently must be given to meet certain definite requirements.

These agents may be classified according to their various uses as follows: First, those which aim to directly supply the ingredients of the gastric juice which we believe to be deficient; second, those which stimulate the depressed function of the organ, and third, those which are capable of counteracting the irritant substances introduced from without. Many of these may be made to serve a double purpose, and their action in great measure depends upon the manner and time of their administration.

Perhaps that which is most frequently used is hydrochloric acid, and it is given in doses of ten (10) to twenty (20) drops, well diluted after meals. The gastric juice is deficient in hydrochloric acid in the conditions of gastric insufficiency and catarrh, and this drug, even in small doses, by combining with the pepsin secreted, will increase digestion. Acids tend also to relieve organic fermentation and are especially effective where there are gaseous eructations from this cause. They are contraindicated, of course, where there is hyperacidity.

The other drugs used to supply deficient physiological secretions are pepsin and pancreatine, but they are much inferor to hydrochloric acid for the reason that it is this ingredent of the gastric juice which is nearly always lacking. They serve a useful purpose in tiding a patient over an acute indigestion, but the same result may ordinarily be obtained by a restriction of diet, and I believe their continuous employment is only indicated in the later stages of gastritis, gastric atony and prolonged dilatation, conditions in which there is actual destruction of the gastric glands and in which we cannot hope to restore a normal function. Pepsin, to be efficient at all must be given in an acid medium and pancreatine is one that is neutral or alkaline. Of the various alkalies used in stomach diseases, the most commonly employed are bicarbonate of soda and the alkaline mineral waters. When given in small doses before meals they cause a marked increase in the flow of hydrochloric acid, and are therefore useful in conditions in which there is this deficiency.

Mathieu advises their administration in a tumbler of hot water an hour before meals; in this way the alkali stimulates secretion and the hot water motion. To counteract a condition of hyperacidity they must be given in large doses after meals.

Gentian, quassia, capsicum and the other stomachics act chiefly in promoting gastric secretion, while strychnine and ipecac affect particularly the motor function. They are usually given before meals and may often be advantageously combined in one prescription.

The symptom of pain does not ordinarily require special treatment, as when due to an excess or deficiency of hydrochloric acid it will be relieved by the same measures as are employed for the correction of these conditions. There are, however, cases in which it is of such severity as to require the administration of sedatives, and of these morphine, either in small doses by the mouth or hypodermically, is perhaps the most reliable, but should always be used most cautiously.

Hydrocyanic acid, cannabis-indica, cocaine, spirits of chloroform and Hoffman's anodyne are also used for the same purpose. External applications, such as the hot water bag or mustard plaster, are common household remedies which frequently afford much relief.

Nausea and vomiting are to be treated by small pieces of ice, bismuth, oxalate of cerium and other well-known anti-emetics.

The best antiseptics are salicylate of bismuth, creosote, salol and benzo-naphthol, and their employment is indicated in cases in which there is bacterial fermentation. Salol and benzo-naphthol act especially on the small intestines.

Alcohol has but a very limited application in stomach diseases, and for the most part does harm rather than good. It increases the appetite temporarily, as also, in a marked degree, the secretion of gastric juice, but it is an irritant to the mucous membrane and tends to retard digestion. It may be useful, however, where there is great anorexia and physical debility.

One of the most obstinate symptoms with which we have to deal in treating stomach disorders of almost every kind is constipation, and it will often tax our ingenuities to their utmost.

Our aim, of course, is to overcome this condition as far as possible, without recourse to medicine, but unfortunately a diet suitable to one condition is almost certain to aggravate the other and this is not always possible. Glycerine suppositories and enemata serve a useful purpose, but active purgatives and mercurials are inadmissible; and among the laxative combinations I believe there is nothing better than the well-known pill of aloin, strychnine and belladonna, or one, that is a slight modification of it, containing podophylline. Cascara sagrada is also a valuable remedy, and may be combined with other drugs which are given for this condition of the stomach.

Lavage is a method of treating stomach diseases not so much in use here as elsewhere, perhaps in great part owing to a popular prejudice that exists against it, but I believe its beneficial influences are such as to warrant a much wider application than is now given it. It prevents fermentation, with its consequent distention and dilatation, stimulates motility and cleanses the stomach of the accumulated products of inflammation which mechanically interfere with an already deficient digestion.

In dilatation accompanied by infrequent, but very copious, vomiting, it is undoubtedly the most valuable remedy we possess, and its regular employment will not fail to give almost immediate relief. It is useful also in the later stages of catarrh, in atony and in cases of marked irritability with frequent vomiting, but in functional disorders is not to be too long continued, lest it interfere with our other treatment. It is contraindicated in persons of advanced age, in aneurism, gastric ulcer, particularly after a recent hematemesis, and in cases in which there is great debility from organic disease of any kind.

A tumblerful of hot water taken in the morning fasting, or, still better, an hour before each meal, will sometimes serve a useful purpose in cases in which it would seem unnecessary, or, for some reason, impossible, to resort to lavage.

Electricity has been employed in all its forms and is sometimes of considerable service. The faradic current with one electrode over the epigastrium and the other in the region of the liver, or over the spine, is the manner in which it is ordinarily applied, but a better method, in my opinion, is by the employment of Einhorn's stomach electrode, by which the application is made direct.

The use of the galvanic current in this way

will be found most effectual in treating obstinate gastralgias.

General massage is especially useful in nervous conditions, and when applied locally will promote peristalsis of both the stomach and intestines.

The prognosis of these affections depends primarily on their cause. In a purely functional disorder, unaccompanied by other disease, it is almost always good, and the same is true to a less degree in uncomplicated gastric catarrh, except in those of advanced age or in whom the condition has existed for a very long period. All cases improve with proper treatment, but the permanency of this improvement is largely dependent upon the continuous co-operation of the patient; there is always a tendency to relapse into former habits, the result being a recurrence of the trouble.

THE X-RAYS AND THEIR SAFE APPLICATION. DESTRUCTION OF X-RAY AND OTHER INFECTION BY ELECTRO-STERILIZATION.*

By J. Mount Bleyer, M.D., F.R.A.M.S., LL.D., of New York.

DISCOVERIES of the properties of the X-rays go on apace, and the scientific world is watching with the closest interest the experiments that are being made from their different aspects to determine the effects of these rays upon the human body. Since their discovery and their application in medico-surgical work, reports soon started and spread throughout the profession and lay public of a grave danger accompanying the use of these X-rays, owing to the fact that they produce so-called virulent burns by exposure of them.

Records now hold among their files many cases differing in degree, and some have proved fatal from a lingering exposure to them. Even records tell us of a recent murder trial in this state in which the chief question arose, whether the physician who made this X-ray exposure upon a patient was an act of negligence from which death followed.

Let me say at the outset of my remarks, from what I gather from my experimental work, that all your timidity in their future application can be allayed. I conclude that if the X-rays are applied under certain precautions and the proper apparatus used, no such conditions can be possible. I speak now from the actual employment of the rays daily to the chest wall for aid in gaining early diagnostic signs of tubercular and other allied diseases, if present.

This investigation gives me the right of an opinion, and I freely make it before you, showing how we all have fallen into that fallacious position by calling this phenomena as produced by these X-rays, when it is nothing less nor more than an *inoculation*. Now that we know how to remedy the dangers connected with their use, how best to avoid repetition from recurring, and if they occur, the physician, or whoso applies them, is to take the blame, if the proper precautions, as in any surgical operations, are not observed. Of all these facts I shall refer to in a few moments.

Let me eliminate from your minds that an X-ray application, or the use of its photography, is a dangerous precedure, either on a long or short exposure. If this force is applied and handled by skilled hands and suitable mechanism, there is absolutely no atom of fear in producing this phenomena of inoculation known fallaciously as X-ray burns.

This inoculation to my observation from a series of experiments, is due to several physical effects produced by the generation of these rays and the general conditions present. It is a known fact that the use of the Ruhmkorff coil in connection with the generation of these rays is an apparatus which gives an exceedingly high electromotive force and amperage, and, therefore, such high discharges when exhibited produce certain physical conditions surrounding the atmosphere of the patient or person who is exposed to these X-rays. To sum up these physical facts, we find that this high discharge is leveled against the subject, carrying with it from the surrounding septic atmosphere certain particles floating therein, also surcharged with bacteria and foreign material upon the clothing and skin of the patient which are at all times present, setting up sometimes an infection and at other times an inflammatory condition from these forced driven septic material under the skin, exposed to this phenomena.

This inflammatory or inoculated condition is the result of all these facts which I came upon from my crucial experiments and can be avoided without any difficulty now on the part of the operator by the adoption of a few rules gleaned from my practical experiments, which I shall give in the summing up to my remarks.

I now bring before your notice a few most important facts, which are also highly corroborative, and apply directly to my own investigation. Those facts cannot help being appreciated at this moment as they come also from several late observers who studied the question of burns due to fire and hot water, and the causes of death therefrom.

We already know that many deaths are due to burns produced from other causes than by the X-rays. This fact has puzzled scientists to account for deaths, which occurred among persons suffering from other burns, even where the injuries received seemed wholly to produce fatal results. The havoc caused by skin diseases might be much greater and a far larger surface of the skin attacked, but generally a cure could be effected, whereas, in the majority of cases of severe burns the end would be fatal.

Persons who have escaped with their lives from a fire, whether very severely burned or otherwise, suffer intense pain, which is followed by a peculiar torpor, and drowsiness and not infrequently by delirium and convulsions. The pulse becomes weak, the breathing irregular, the temperature lower and there almost always follows vomiting and other symptoms of poisoning, terminating within twenty-four to twenty-eight hours in death.

* Read before the Medico-Legal Society, Psychological Section, May 26, 1898.

Although these symptoms have received the attention of a number of scientists, their views of the actual cause of death were widely diverse. The first guesses, though ingenious, were very far from the truth. A German, F. Falk, arrived at the conclusion that persons suffering from burns died of cold caused by the abnormal amount of heat given off through the burnt portions.

Prof. Ponfite, on the other hand, believed the cause to be the destruction, by the heat of a great number of blood corpuscles, inducing a disturbance of the circulation. Addakoff, a Russian physician, stated as his view, gained from clinical observation, that the results of burns upon the system bore a resemblance to the effect produced by certain poisons, particularly those generated in the body by the failure to throw off secretions.

Lustgarten and Kijanitsin came still nearer to the truth. The former, comparing the results to burning with that of ptomaine poisoning, and the latter declaring that under some influence or other, probably that of a ferment, or of bacteria, a poisonous matter developed in the blood of burnt persons. He actually found in the blood of such persons a poison (ptomaine) that is not present in normal bodies. It is a formless matter, with a sharp, disagreeable odor; if injected into dogs or rabbits, produces all the symptoms caused by burning. The belief of Lustgarten, that bacteria causing impurities, which settled in the wounds, were the generators of the poison, was shown by the experiments of Ayello and Parascandolo, to be unfounded. Both these were able to take from any part of the body of a burnt animal a poison, the injection of ten grammes of which into a dog, weighing twenty pounds, produce instant death. The strongest poison was obtained from the burnt flesh, a lesser was in burned entrails, and the weakest of all came from the blood. From this may be deducted with certainty that the ptomaine is not solely in the blood, but in the whole of the burned portions and is thence carried into the *system*. Burned persons poison themselves, so to speak. The poison may be regarded as the product under the influence of high temperature of the albumen and the direct impregnation of bacterial poisons from without. It has been found possible, however, to prevent the poison from spreading by removing the burned portions before the ptomaine had entered the circulation. It is also known from Ajello and Parascandolo's experiments with animals, that all recovered, without having suffered from the symptoms incidental to burns, when the amputation of the burned parts occurred immediately after the *burns* were received, where the amputation was delayed for twenty-four hours, they all succumbed, except in instances where large quantities of blood were removed by bleeding; the blood drawn off being replaced, however, by a transfusion of pure blood. By the bleeding a large quantity of the poison was removed, the blood artificially supplied so strengthened the animal that there was facilitated for further separation of the poison from the blood by means of the kidneys.

I lay much stress upon this important point, due to these X-ray phenomena. That the X-ray burn always appears many days after the application of this force or light to a part of the body and does not show absolutely an early manifestation, as minutes or hours thereafter, but days elapse, even as late as eighteen days thereafter. These X-ray burns begin with a painful dermatitis, slowly and symptoms resembling burns from heat and scalds. It is therefore that from the very outset the conditions that the clinical difference is apparent.

How should we avoid this dangerous condition in the application of the X-ray?

To sum up in a few clauses, the whole matter, let me say in a few words the following, viz.: above all supplant the static machine for the Ruhmkorff coil. This form of electricity or energy has not the physical properties of carrying foreign material into the depths of the tissues as readily as the other current.

Static electricity gives only the high voltage with low amperage, while the other is productive of both high forces, making it an unnecessary and dangerous appliance.

All parts to be either photographed or examined by means of these X-rays should have all cloth ing removed therefrom, and washed with an antiseptic solution or so prepared as if a surgical operation was to be performed; also a room which is free from infectious material as possible should always be made ready, or specially appointed for the purpose. Those are the cardinal rules and must not be deviated therefrom in order to avoid a dangerous inoculation or poisoning. A screen is a good addition.

Specific Treatment for Such Conditions.—Should such an X-ray inoculation occur from unforeseen causes, or otherwise, sterilization of the affected part, by means of electrolysis, is the safest and quickest specific known to me, with the amputation of all loose tissue surrounding the parts. I found in my early work, as far back as May, 1896, when I had been as unfortunate as others, to inflict several patients with these inoculations (X-ray burns) that something more was present to deal with than an ordinary *electrodermatitis*. Experimental study of the question soon elicited facts that brought me to the discovery of the following remedial agent, which I commend to your notice.

Electrolysis, or sterilization of the parts, is a specific. What do we understand by electrolysis? It is the breaking up of chemical compounds, organic or inorganic, into their constituent elements by the agency of electricity, the process being accompanied by the loss of heat and usually by change in the volume of the substance submitted to experiment.

The conditions requisite for the performance of electrolysis are: (1) A fluid or semi-fluid conductor; (2) conveniently placed electrodes; (3) a continuous current (the galvanic) of sufficient electro motive force or strength to overcome the resistance interposed between the electrodes—meaning the patient placed between the electrodes and the battery. The current decomposes all the infected material and changes them into some other non-poisonous com-

pound, thereby relieving the system of poisonous products. This is accomplished by placing such parts of the body into a salty solution of distilled water and connecting the electrode with the negative pole of a galvanic current with a mil-ampere meter. The positive pole may be placed on any convenient part of the subject. Vessels of porcelain wood, or glass are best, the strength of this current should average five mil-ampere to a square inch of surface to be sterilized, lasting at least one-half hour; after that time the polarity should be reversed for five to ten minutes, in order to set free the chlorine which will again react on all the external and internal exposed surfaces. Accurate measuring by means of a mil-ampere meter with the use of such current must be strictly adhered to, as serious conditions will arise unless one knows the exact amount of current passing so as to judge the exact quantity of chemical action and thereby controlling its destructive effects. If these rules are not followed injury to healthy tissue will result.

I know of no more satisfactory and scientific methods in the treatment of these X-ray wounds, and in fact in all deep and superficial wounds and poisoning, than sterilization by electrolysis. All wounds with pus should be first drained by incision before the above procedure is attempted. I must also state in my recommending sterilization by electrolysis to those that will hereafter follow it, should at least be acquainted with the fundamental principles involving electro chemistry. Good judgment is necessary, as much damage can be done if improper precautions are not observed. The time of application must be always left to the discretion of the operator, especially in deep seated conditions. Reapplication can be always resorted to. There are no contraindication for this treatment by electro-sterilization to any class of infected wounds and skin diseases presented to surgery. However, each case must be treated upon its own merits; after such treatment protective dressings of simple kind are necessary to keep the parts from further infection.

To small wounds and infections a sponge electro to suit the size well saturated with salt solution is a rapid way of applying electro-decomposition.

I bring my new and novel investigation before your notice, and hope that it will find its way into general surgery with as much and better satisfaction than the heretofore methods employed, and given as good account of itself as it has in my hands.

This work has been the outcome of very early results obtained from experiments and treatment of tuberculosis and other inflammatory diseases of the lungs, which still occupies my time already with most fruitful results.

My investigations brought me to a most important point, and that all microscopic crevices are cleaned of bacilli, their products and pus cells, wherein the use of antiseptic solutions and a mere coating is effected therefrom, and always liable to a reinfection. This form of sterilization does not absolutely admit of such a condition as destruction takes place instantaneously by electro-chemical decomposition; also by reversing of the polarity of this current these microscopical crevices are again closed completely by its electro-dynamic action.

Electro-sterilization must therefore be highly recommended as a prime antidote also for all kinds of stings, dog bites, or, in fact, to even venomous wounds produced by serpents. The current should be applied a much longer time than for ordinary cases. According to authority (Martin), who considers that when a person has been bitten by a poisonous snake our efforts to influence the results may take three directions: (1) To prevent the absorption of the poison; (2) to counteract or lessen its effect on the organism; (3) to hasten its elimination.

With the first object a ligature should be tightly applied to the limb or above any place where such a bite has been gotten. Electrolysis to the bitten or poisonous wound should as soon as possible be performed. This mode of treatment will destroy the venom by decomposing it, and a ligature above the part bitten preventing the absorption of the venom. The process of ligaturing above the bite received from any poisonous animal or wound, is always a good move until electrolysis has been thoroughly done. Never use any caustics upon any such wounds gotten from animals or otherwise, as there lies a great and serious danger in heaping coals on the fire. If a caustic is used you do not decompose the poison, but make a longer and more of an absorbing place for the circulation, and also a better feeding ground for the poison to act from. For the army or navy small portable batteries specially arranged for that purpose can be used. I beg to acknowledge some valuable suggestions during my experiments to Dr. H. F. Waite.

[NOTE.—In my experimental work I made use of the Waite & Bartlett Static Machine, and specially constructed batteries.]

ON THE ABSURDITY OF THE "REST CURE" FOR A CERTAIN CLASS OF PATIENTS.

BY CHARLES E. PAGE, M.D., BOSTON, MASS.

NO one at present questions the value of the rest cure for overwrought and nervous patients, women who have overworked and need just such a change as this name implies. Now and then we find one who would be benefited by going to bed for a few days—a week, even—for complete rest and freedom from the nuisance of the ordinary dress, so unhygienic in its effects. But can anything more absolutely foolish be imagined than prescribing the rest cure for one who has rested all his life? Here, for example, is a woman who during her entire life has saved her steps, has walked slowly whenever she has been about at all, has never had any special care or responsibility thrown upon her, in short has led an emphatically sedentary and care-free life, and at the same time has been a generous feeder, with the very natural result that she is frail and delicate and predisposed to all manner of attacks.

A few months ago she was taken ill with what was declared to be pleurisy, and the symptoms as related to the writer would indicate that disease, the active and speedily abortive treatment for which is the ice-cold compress* changed every minute or two till relief is secured, say for an hour or more. This active treatment, sucking out the excess of heat, or sending in delightfully cool waves, to relieve the congested state of the pleura, whichever way one may choose to put it, will often end the agony of a patient suffering from pleurisy in short order, and is always the true method of attacking it. This and a diet of fresh water alone till convalescence is fully established, body temperature practically normal and the patient actually hungry, is the correct treatment, as has been shown by many hundreds of successfully treated cases. But this patient had other treatment—drugs, constant feeding, etc., with the natural consequence of a long illness, bad cough, slow convalescence, "sore lungs"; but being of long-lived stock, with a degree of tough fiber making an early snuffing out of life extremely difficult, she finally began to mend and gained strength as she resumed the gentle "activities" to which she has always been accustomed. For years it has been remarked that she needed to begin and carry out a course of all-round physical training, thus gradually building up her flabby muscular system by the only means ever discovered, the only means discoverable. But now comes the information that she has exchanged her old doctor for another physician, who has examined her very carefully and prescribed for her complete rest, no hills or stairs to climb, little and level walking, and everything quiet. "The heart is very weak," the doctor says, and nothing must be done to tax its strength!

Now this sort of treatment is of a nature to appeal to the senses of the average invalid and it tends to make the doctor popular; plenty to eat and nothing to do! Why not?

Of course, we must believe that a physician who advises the rest cure for patients whose disorders arise chiefly from over-resting, so to say, does so in pure ignorance as to the needs of the animal organism in health and disease. But, all the same, his method is doubly profitable, in that it pleases the patient and his friends, and tends to bring him other consultants through their recommendation and to keep his clients long ailing, running up long bills; and, live or die, no one is the wiser! There are physicians wise enough to recommend to the class of patients herein referred to a carefully planned course of physical training, and in every instance the results are excellent and satisfactory to all concerned—except the doctor, when he finds that his greatest successes do not tend to increase his business and income! His frail and delicate, weak-hearted patient grows steadily stronger, and her heart regains its normal health; but there is nothing mystical or (to the minds of the onlookers) "scientific" in his method, and from the start the gossipers are likely to criticise his treatment in a way to drive away rather than entice new patients; to prescribe hill and stair-climbing for a patient with a weak heart seems to the ignorant medical man or layman rather brutal than scientific and useful; and yet it is in the highest degree scientific and curative, as has been proven over and over again. In one sanitarium a tread-mill has been placed especially for patients with weak hearts. From the most moderate beginning the patient is gradually worked up in the course of time to hard and sharp exertion. Of course, exercise in the open air is vastly better than any sort of indoor work. Hill-climbing is better than stair-climbing or the monotonous exercise of the tread-mill, the only difficulty being in the matter of properly directing the patient as to work time and rest time.

"At present I am only able to walk about a mile on level going," wrote a consumptive who had been declining for three years, finishing up with a few months' sojourn in Colorado. Under a judiciously directed course of training this patient was within four months equal to a ten-mile cross-country pedestrian trip, part of it at a sharp run, and he went on to the recovery of perfect health. Now, after thirteen years of uninterrupted health he declares that he will "kick himself for a fool if he don't live to be ninety!" This is Mr. Birge Harrison, one of the most successful of the large number of American artists in Paris. In Paris, in London, in Philadelphia (under the care of his old family doctor), and finally in Colorado, he had tried the alleged virtues of the resting and stuffing cure till his case was given over as hopeless, when he chanced to fall into my hands (in March, 1885), with the result above stated. Of course, my prescriptions included the direction of every habit of his life—diet, clothing, sleep, rest, as well as amount and character of his exercise—and the outcome was similar to that in a large number of cases of weak and ill-conditioned patients for whom I have had the honor of prescribing.

*Thickly folded linen towel wrung tightly from ice water, to be pressed over parts.

SURGERY OF THE UTERUS AND ADNEXA PER VAGINAM.*

By William H. Wathen, A.M., M.D., LL.D.,

Professor of Obstetrics, Abdominal Surgery and Gynecology in the Kentucky School of Medicine; Fellow of the Americam Gynecological Society and of the Southern Surgical and Gynecological Society; Gynecologist to the Kentucky School of Medicine Hospital and the Louisville City Hospital, etc., Louisville, Ky.

THE author said that in the report of a recent discussion upon suprapubic versus infrapubic surgery for diseases of the uterus and its adnexa, one of our fellows is reported to have said: "Vaginal work leaves very little room for conservatism. A man who opens the abdomen from above sees what is present, and knows whether he can conserve some of the organs."

*Abstract of a paper by Dr. Wathen, at meeting of the American Gynecological Society, held in Boston, May 25, 1898.

Had this statement been made by some inexperienced surgeon it would probably not have attracted my attention, for it is well-known that when Drs. Segond, Pozzi, Richelot, etc., were renowned surgeons by the suprapubic method, they used similar expressions in opposition to the infrapubic work by Pean until they learned his methods, his technique and his results, but long before the death of this distinguished surgeon they fully endorsed all that he claimed.

It is true that in celiotomy we may generally learn from an examination of all diseased structures what should be removed, and what should not be removed, but this is often based more upon the sense of touch than upon the sense of sight; for in many of these cases where the diseased conditions in the pelvis cannot be removed without endangering the life of the patient to a degree inconsistent with good surgery, they can be exposed only in a minor degree to the sense of sight.

But when we are uncertain as to whether the uterine adnexa should be removed, or as to just what should be done, because of our inability to detect any well-marked pathological lesions, then there is incalculably more conservatism in examining the adnexa and all the pelvic structures through an opening into Douglas' pouch. This operation is nearly devoid of danger, and every pelvic organ, including the uterus and the broad ligaments, can be examined by the sense of touch with the finger in direct contact. If there be adhesions, these may be separated, the ovaries and tubes pulled into the vagina, treated if necessary, returned to their proper place, and the vaginal incision closed with catgut. While no careful surgeon would consent for these patients to get out of bed on the second day after such an operation, I am positive, were they to do so, this imprudence would probably not result in a single death. Certainly no one would suggest the probability of such results in suprapubic explorations.

I cannot believe that it is often wise to open the abdomen for the purpose of making explorations of this kind, or for separating pelvic adhesions. It is the consensus of opinion that the Alexander operation is never indicated where there are pelvic adhesions that will not allow the womb to come to its proper place, although the adnexae be otherwise normal. This objection may be removed by vaginal incision and the separation of the adhesions, and when the ligaments are drawn into the suprapubic wound, the finger introduced into Douglas' pouch can detect if the uterus is in the proper place, and the degree of tension on the ligaments indicated. When the operation is completed, the vaginal incision may be closed with catgut, and no serious damage will have been inflicted.

The same method, I assume, may be practiced where we prefer uniting the fundus of the uterus to the anterior abdominal wall; the adhesions, if there be any, having been separated, the uterus may be pressed firmly against the wall, and with the finger introduced through the vaginal opening, the intestines and omentum pressed away from between the organ and the wall, so that in this position a suture may be introduced through the entire thickness of the walls into the fundus of the uterus and tied externally with but little danger of wounding intestines or omentum.

Vaginal incision, without removal of the uterus, ovaries or tubes, is often preferable to the suprapubic method in many cases of accumulation of pus in the pelvis. In so-called "encysted peritonitis," where there is a large accumulation of pus surrounding the uterus, roofed in above by the agglutination of the intestines and omentum by inflammatory exudations, the patient may be cured by vaginal incision and drainage. The objection to this method, because of our failure to separate omental and intestinal adhesions, is illogical, for these patients are relieved of nearly all symptoms by the operation, showing that continued adhesions do not cause trouble, the bowel having been evenly and regularly matted together so that gases and feces continue to pass uninterruptedly. Were these adhesions separated by the suprapubic method, the bowel would often be seriously injured, sometimes irreparably so. The danger of soiling the peritoneum with septic pus must be seriously considered; but, granting that infection is prevented, that the adhesions are all separated without injury to any important structures, I venture the assertion that new adhesions will form and cause a more dangerous condition than in those cases where the adhesions were not disturbed in operations per vaginam.

I have never understood why some celiotomists persist that there is such great danger of wounding the bowel in operating from below. Within the last four years I have operated for pelvic diseases per vaginam in from four-fifths to nine-tenths of my cases, and I have never opened a bowel or torn a ureter; and while I have but little trouble in my suprapubic operations, I have been compelled upon several occasions to suture the bowel.

Where drainage is indicated it is more successful per vaginam, and no one can appreciate the superiority of this method over abdominal drainage until he has extensive experience in vaginal work.

In my earlier celiotomy work I irrigated and drained in many cases; in similar cases I now seldom do either, and my patients convalesce more satisfactorily. It is nearly impossible to drain for any considerable length of time through the abdomen by either gauze or glass or gum tubes without causing extensive adhesions, and often persistent sinuses leading down to an infected ligature.

I must positively take issue with the statement that sinuses are more frequent following vaginal work. Judging from my own operations and from the numerous cases of sinuses I have seen in the practice of other abdominal surgeons, I am forced to the conclusion that there are relatively ten cases of sinuses following the suprapubic method where there is one following the vaginal work. If vaginal work is correctly performed, and sutures are not used, there is seldom any case in which there is an excuse for a permanent sinus. I had a few sinuses in my earlier vaginal work, but my results are different now.

The only argument in favor of suprapubic hys-

terectomy for the removal of a malignant uterus is that infected tissues outside of the uterus may then be removed, and the operation made more thorough by ligating the arteries at the internal iliac and dissecting out infected pelvic glands. This operation cannot be performed except by a thoroughly trained surgeon, and then may require nearly two hours for its performance. A little experience will show that this method is not justifiable, for the disease will return so soon that the patient would probably have lived as long or longer had the uterus not been removed.

Time will prove that no cancerous uterus should be removed where the disease has involved tissues outside the uterus, and in nearly all these cases the operation per vaginam is preferable, and the immediate and subsequent mortality not so great. The immediate mortality should be practically nil, and recurrences may be less frequent if we will curette the uterus and use the galvano cautery a week before the hysterectomy and again at the time of the hysterectomy.

As it may be that the ovaries serve a purpose similar to the ductless glands, it might be well not to remove them in an operation per vaginam where they are not so diseased as to endanger the health or the life of the woman.

In conclusion I will refer to the simplicity of technique in work per vaginam. Where we do not perform hysterectomy, the work may be more successfully and more rapidly performed by using no speculum or retractor save the fingers, and in hysterectomy retractors are seldom indicated, and I have removed large myomata without using any. It might probably be better in morcellation to use a broad retractor in front to better protect the bladder and ureters.

I have been especially impressed with the simplicity and rapidity of the operation for lacerated cervix by using no retractors or specula, and uniting the raw surfaces with a continuous suture of catgut. The operation by this means may be completed in bilateral laceration within ten minutes. Were these patients allowed to get out of bed on the second day after the operation, I do not believe they would suffer any serious injury, or that the success of the operation would be jeopardized.

THE INFLUENCE OF DISEASE OF THE STOMACH UPON NASAL AND POST-NASAL CATARRH.*

By C. D. Conkey, M.D., West Superior, Wis.

SINCE first nasal and post-nasal catarrh have been studied their causative factors have been the subject of many critical investigations.

Much valuable knowledge has been acquired in regard to them, but much uncertainty still remains as to their etiology.

Thus in one of our latest text-books upon the nose and throat the following sentence occurs: "The direct causes of chronic hypertrophic catarrh have not been satisfactorily explained, nor has its very variable course in different individuals been altogether logically explained."

Its origin has been ascribed to many causes, but of necessity very few of them can be directly responsible for its development.

As secondary factors they have all had a powerful influence upon its course and termination.

My impression is that the true cause of hypertrophic catarrh and post-nasal catarrh can always be ascribed to one or more acute attacks of inflammation which has failed to result in resolution.

When once inflamed these secondary factors at once come into play and largely determine the prognosis.

For instance, a nose greatly distorted by a crooked septum fails to furnish free drainage to the inflammatory products resulting from an attack of coryza.

Such a nose continually clogged and bathed in an irritant discharge heals slowly and often not at all; or the post-nasal space, filled with a large surplus of glandular tissue and excessive blood supply, becoming inflamed owing to this peculiar anatomical condition, readily drops into a chronic inflammation.

The following are the principal causes enumerated by various writers: Nasal obstructions, vasomotor disturbances, gouty and rheumatic diathesis, poor hygienic conditions, climate, dust and atmospheric irritants.

They are taken from a number of recognized authorities, who mention them without laying any stress upon their primary and secondary relation to the disease.

Nor has any one of the factors named the prestige of being placed first by a majority of the writers, but each has its own advocate, who places it forward before the rest.

It, however, matters little what is the original cause of the disease when it is thoroughly established.

Each of the factors mentioned have a powerful modifying influence upon the course and termination of the disease, though some are of greater importance than others.

They must all be reckoned with, or efforts to give relief will be in vain.

Recognizing the importance of all factors that exert a controlling influence upon chronic catarrh of the upper respiratory tract, I am induced to mention a factor that has been exploited but little, which, in my opinion, has a very powerful effect in keeping up this disease.

In my study of catarrh from a clinical standpoint, I have been impressed with the belief that there is an extremely close relation existing between them and catarrhal conditions of the digestive organs.

It is a noteworthy fact that the most universal diseases prevalent in the northern section of the United States are diseases of these two sets of organs. Gastric catarrh has been called our national disease and nasal catarrh might well be so called. They are co-extensive and are frequently found existing in the same individual, too often, in fact, to be a mere coincident. It is more than probable that they are interdependent, one modifying the course of the other. My reasons for believing that there is such a close dependence, briefly stated, are as follows:

* Read before the Wisconsin State Medical Society, 1898.

I. Clinical cases of nasal and post-nasal disease are apt to give a history of stomach trouble, or, at the time of the examination, to show signs of such derangement. Some are troubled by symptoms so mild as to be scarcely worthy of notice, such as a coated tongue, fermentation and constipation.

Others will have such pronounced gastric symptoms that the patient unaided will trace a sequence between the two sets of organs. The patient will often volunteer the statement that his catarrh is always worse when his stomach is troubling him most.

An aggravated case of gastric catarrh is very frequently accompanied by an intensely engorged nasal and post-nasal membrane. Hard drinkers, who have acquired the gastric catarrh of alcoholism, are very apt to reveal this condition in the upper respiratory tract.

II. Nasal and post-nasal catarrh are invariably made worse by unusual stomach disturbance. This fact I have observed time and again.

A sudden attack of gastric catarrh occurring in a person suffering from nasal disease will be accompanied by a tremendous outpouring of mucus from the nasal passages, nor does the discharge decline till the stomach returns to a quiescent state. Another interesting fact in this connection is noticed. When the stomach again becomes quiescent the discharge becomes much less for a time than it was previous to the attack, owing, no doubt, to the improved condition of the stomach following a period of enforced rest. An attack of hemicrania will often in like manner aggravate a chronic nasal catarrh, greatly increasing the usual discharge and also producing such engorgment of the turbinates upon the affected side as to produce occlusion of the nares upon that side.

III. It is a well-known fact that chronic pharyngitis and other pharyngeal troubles are largely dependent upon the stomach for their presence. It would be folly to treat them locally without at the same time directing our therapeutic measures to this organ. As the pharynx is simply a continuation of the upper respiratory tract, differing but little from it, it is not at all unlikely that the upper part would always escape when the lower part is so often involved. It is true that some distinguished authors, most notable of whom is Bosworth, assert that the lower pharynx is part of the digestive tract, while the upper part is part of the respiratory, and that diseases of the stomach will affect the former, but never the latter. I do not believe that this statement is borne out by facts. If the pharynx is part of the digestive tract only, why is it that it so readily becomes involved by extension in affections of the nasal and post-nasal regions as he time and again admits in his admirable work upon the nose and throat? My observations lead me to believe that this whole tract is intimately associated and subject to the same modifying influence, differing only in degree.

IV. These cases improve under treatment directed to restoring the digestive organs to their normal conditions and will not improve to any marked extent without correcting the existing digestive error even though vigorous local treatment is carried out at the same time. The above statements are based upon observations made upon a large number of cases and they are in line with the writings of a few prominent men such as Berkeley Robinson, of New York, and French, of Brooklyn.

I do not wish to convey the impression that all cases of catarrh of the upper nasal passages are accompanied by catarrh of the stomach, but I believe that the percentage is large of such cases. It is a factor that occurs sufficiently often to be always considered as a possible modifying factor, and should receive the same attention that other factors receive in the treatment of this disease.

Pregnancy Following Ventrofixation, with Improvements in Technique.— (Author's abstract of paper read before American Gynecological Society at Boston, May 24, by A. Lapthorn Smith, M.D., M.R.C.S., England; Fellow of the American Gynecological Society, Professor of Clinical Gynecology, Bishop's University, Montreal; Gynecologist to the Montreal Dispensary; Surgeon-in-Chief of the Samaritan Hospital for Women; Surgeon to the Western General Hospital.)—His conclusions were based upon about 2,500 cases by forty-one operators, including 111 cases of his own, reported in reply to a circular letter of inquiry.

First. That as far as curing retrodisplacements is concerned, whether retroflexion, retroversion, anteflexion with retroversion, and also prolapse of the uterus, ventrofixation with two buried silk stitches passing through peritoneum and fascia gives the most reliable results. Failures are unknown when the operation is performed in this way.

Second. Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as detaching of adhesions and the removal of the diseased tubes which caused the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen, because

Third. Although pregnancy only followed in 148 cases out of about 2,500, still in 30 per cent. of these, or 36, there was pain, miscarriage or difficult labor requiring obstetrical operations.

Fourth. When suspensio uteri was performed—that is, the uterus attached to the peritoneum—only a few relapses occurred; but, on the other hand, the patients were free from pain during pregnancy and the labors were less tedious; neither did they require resort to serious obstetrical operations. The uterus should therefore be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain.

Fifth. A third method, it is claimed by some—namely, the intra-abdominal shortening of the round ligaments—is preferable to either ventrofixation or suspensio uteri. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube, or in cases in which the latter are not removed, simply to detach them from adhesions and shorten the round ligament by drawing up a loop of it and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents which are present in 30 per cent. of the cases of ventrofixation are certainly avoided.

Sixth. If the uterus is attached to the abdominal wall, the stitches should be kept on the anterior surface, but near the top of the fundus; the complications were more frequent when there was too much anteversion than was the case when the anterior surface of the fundus was attached to the abdominal wall.

Seventh. As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position.

Eighth. Several of my correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labor unfavorably influenced by it. Alexander's

operation should therefore be preferred whenever the uterus and appendages are free from adhesions.

Ninth. The results of Alexander's operation are so good that even when there are adhesions it might be well to adopt the procedure of freeing the adhesions by a very small median incision and then shortening the round ligaments by Alexander's method, after which the abdomen should be closed. This could be done without adding more than ½ of 1 per cent. to the mortality, which, in Alexander's operation, is nil.

A Simple Test for the Purity of Water.—The *Massachusetts Medical Journal* for May quotes from *Health*, for persons who cannot command chemical analysis, the following simple tests for the purity of water:

Fill a bottle made of colorless glass with the water; look through the water at some black object; the water should then appear perfectly colorless and free from suspended matter. A muddy or turbid appearance would indicate the presence of soluble organic matter, or of soluble matter in suspension. It should be "clear as crystal."

Empty out some of the water, leaving the bottle half full; cork up the bottle and place it for a few hours in a warm place; shake up the water, remove the cork, and critically smell the air contained in the bottle. If it has any smell, and especially if the odor is in the least repulsive, the water should be rejected for domestic use. By heating the water to boiling, an odor is sometimes evolved that otherwise would not appear.

Pure water should be tasteless and remain so after being warmed. It should also be odorless; but, since the delicacy of smell and taste varies greatly, sanitarians attach special importance to Heisch's test for sewage contamination or the presence of putrescible organic matter. A clean pint bottle is filled three-fourths full of the water to be tested, and in the water is dissolved a teaspoonful of the purest sugar—loaf or granulated sugar will answer; the bottle is then corked and kept in a warm place for two days. If in from twenty-four to forty-eight hours the water becomes cloudy or muddy, it is unfit for domestic use. If it remains perfectly clear it is probably safe to use.

The Value of Quinine in Malaria.—Dr. J. G. Van Marter, Jr. (*Texas-Courier Record of Medicine* for May), sums up an interesting paper on this subject as follows: 1. As a preventive quinine will not do for those who are compelled to live indefinitely in a severe malarial climate, since in time it acts as a vaso-motor poison.

2. Quinine acts nearly as a specific in all malarial fevers characterized by intermissions or well-marked remissions, but fails in the continued fevers, those with typhoid-like symptoms, those malarias without temperature, and the cachexias and anemias due to malaria.

3. It is thus proved that quinine is a poison to the plasmodium itself, but is useless against the toxine manufactured by it.

4. Warburg's tincture in the last condition has an action not yet understood on the toxine (or the eliminative system) by which the system is put in condition to benefit by quinine.

5. Quinine should never be used in hemoglobinuria, or given subsequently to one who has suffered from it, as it is liable to bring about a recurrence of the condition.

6. Only those living in regions of severe malarial diseases can become competent to settle these questions *pro* or *con*.

Coca Wine and Its Dangers.—There is no doubt, says the *Ontario Medical Journal* (and its warning is no less needed in this latitude), that the steadily increasing consumption of coca wine is a subject which calls for comment and investigation. We find that coca wine and other medicated wines are largely sold to people who are considered, and consider themselves to be total abstainers. It is not uncommon to hear the mother of a family say, "I never allow my girls to touch stimulants of any kind, but I give them each a glass of coca wine at eleven in the morning, and again at bedtime." Originally, coca wine was made from coca leaves, but it is now commonly a solution of the alkaloid in a sweet and usually strongly alcoholic wine. According to the board of trade regulations, a wine containing a grain of any salt of cocaine in the ounce may be sold without a wine license; this may be the explanation of the frequency with which we see bottles of "coca champagne" exhibited in the windows of the drug stores. Not long ago a physician reported that he had experienced considerable inconvenience from taking a glass of standardized coca wine which he had mistaken for an inocuous beverage. Still more recently we have been furnished with details of a case of a man who, thinking to abjure the use of alcoholic stimulants, drank coca wine so freely that he died of delirium tremens. School mistresses, as a rule, have a deep-rooted belief in the efficacy of the popular drug, and give it to their pupils on the slightest provocation, in complete ignorance of the fact that they are establishing a liking not only for alcohol, but for the far more insidious and pernicious poison cocaine. The child who is the innocent victim of cocainism is wayward in disposition, is restless and disturbed at night, and is incapable of prolonged application. The mania for taking narcotic stimulants is widespread, and is a distinct source of danger to the national health. It is difficult to say at present what steps should be taken, but it is obvious that at no distant date some restrictions will have to be placed on the sale of coca wine and its congeners.

A New Yellow Fever Germ.—Dr. Edwin Klebs, Professor of Pathology and Bacteriology at the Post-Graduate School, and of Pathology at Rush Medical College, Chicago, has, according to newspaper reports, discovered a new germ of yellow fever entirely distinct from that of the Savonilli bacillus.

The organism which Dr. Klebs thinks is the ætiological factor in the production of yellow fever is an amœba obtained from the stomach, duodenum, and liver of patients dead of that disease.

According to the report the germ must be taken into the system by way of the mouth in the same manner as the typhoid bacillus before the disease can be produced. Infection through the respiratory tract is not sufficient.

After gaining entrance into the system the amœba sets up an inflammatory process in the stomach and duodenum, causing a small growth on the mucous coat similar to that of a blackberry. From these localities it finds its way to the liver, where it is seen, and is about twice the size of a red blood corpuscle and causes rapid degeneration of this organ.

No actual experiments have been made with this germ, nor has it been cultivated artificially.

Early Diagnosis of Scarlatina.—The diagnosis of eruptive fevers at the onset is often so delicate, especially in light forms, that it is useful to report the slightest symptoms (*Journ. Univ. Med. Sci.; Med and Surg. Reporter*). Valli-Attiles especially notes the occurrence in scarlet fever of vomiting entirely different from that observed in other eruptive fevers. The vomiting occurs very early, before any other morbid manifestation, and in the absence of any previous gastric troubles; it surprises the child in the midst of play and before the appearance of headache, malaise, fever or initial angina. In a number of cases of scarlet fever without exanthema, the diagnosis was decided solely by the vomiting and the angina following it. The proof that this symptom belongs to the scarlet fever and not to an ordinary angina is that several cases of angina where it existed were complicated with nephritis, and that children subject to recurrent angina never vomited until the day they had scarlet fever and its characteristic angina.

A New Symptom of Cancer.—G. Bogdan (*Brit Med. Jour.*) relates the case of a woman, aged forty-eight, who suffered from cancer of the stomach. The disease had gone through a long period of latency. The patient presented on each cheek a patch of wine-red discoloration formed by the dilatation of the superficial venules; the stain showed out sharply against the pale yellow of the surrounding skin. On the strength of this symptom alone Bogdan was able to make a diagnosis of probable cancer at a time when there was yet no other manifest sign of that affection. He looks upon such superficial varicosities on the cheeks as a valuable help to the only recognition of certain cancers; he has seen it in about two-thirds of the cases of cancer which have come under his observation; it is particularly frequent in cases of epithelioma of the stomach and uterus, but less common in malignant disease of other organs.

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The right punishment of one out of tune is to make him play in tune.—EMERSON.

NEW SCHOOL OF SCIENTIFIC MEDICINE.

SURGEON-GENERAL STERNBERG, in his recent address, as president, before the American Medical Association at Denver, repudiates the title of "*Old School*" as applied to the fast filling ranks of scientific thinkers in the medical profession, and substitutes another name, that of "*The New School of Scientific Medicine.*" This name is not original with the Surgeon-General and President of the American Medical Association, but was voiced years ago in the columns of the MEDICAL TIMES, and was received with sneers by the so-called "Old School," and a howl of indignation, misrepresentation, and abuse by many of the journals and would-be leaders of the new school, all of which contended that the time had not yet come for a union in work and investigation under the folds of one flag. More than ten years ago one of the editors of this journal gave notice at a meeting of the American Institute of Homoeopathy, that at its next meeting he intended to move that the name of the Institute be changed to that of the "*American Institute of Scientific Medicine,*" basing his reasons for the change that the trend of scientific investigation in all schools was along the same lines, and was reaching conclusions so impregnable as to elevate the profession from the domain of empiricism, with its warring factions, to the ranks of science. "Much as the 'new school' had accomplished in the way of scientific medicine, and proudly as it might point to its records of the practical good it had accomplished and the change it had produced in medical thought and practice throughout the world, it was hampered and its usefulness impaired by a sectarian name, which was very far from voicing or defining its actual work. We are physicians pledged to one of the noblest duties to which humanity can be called, upon the proper fulfillment of which depends to a certain extent not only the welfare of the body, but of the soul. It is ours to penetrate with the light of science the dark chambers of disease, to cleanse the channels of life and say to the 'pestilence which wasteth at noonday: thus far but no farther.' The time has come for a union along scientific lines, for independent thought, for free investigation in which no creed or path shall be permitted to block the way. This school, which has done so much for humanity, can well afford to take the initiative in a movement which sooner or later will dominate the medical world."

This proposition was received with such a storm of derision that no future effort was made to carry it into effect. THE MEDICAL TIMES, however, has kept steadily on with its work, firmly believing in the correctness of its position and without a single doubt of its ultimate triumph. Scarcely a decade has passed when the Surgeon-General of the United States advances, as President of the American Medical Association, gathered at Denver from every State in the union, with all the weight of the medical head of an army whose heroic deeds are now thrilling the hearts of civilized nations throughout the world, precisely the same idea presented in the American Institute of Homeopathy, backed by almost the same argument. Indeed, that portion of Gen. Sternberg's address, in which he claims that the term "old school" is entirely inappropriate, and insists that for a profession which, as a whole, within the past few years has been moving forward with such incredible activity upon the substantial basis of scientific research, if characterized by any distinctive name, it should be the "*New School of Scientific Medicine,*" is almost precisely in spirit and in language like the editorials which have so often appeared in the TIMES.

The emphatic assertion that "there is now no room for creed and pathies in medicine any more than in astronomy, geology, or botany, and that every man is entitled to his own opinion upon any unsettled question, and that no restriction should be placed upon any regularly educated physician, as to his mode of treatment in any given case," did not meet with the endorsement of all in the Society. When the motion of Dr. Hare, the distinguished author and teacher, was presented, "That this Association invites the New York State Medical

Society, the New York County Medical Society, the New York Academy of Medicine and other societies of good and regular standing to send delegates to this association," it was too much for one of the members, Dr. Munn, of Denver, who denounced the resolution as the inoculated scalpel by which it is proposed to introduce the sepsis of commercialism into the association. In this Western country, said Dr. Munn, we have had all that we could do to keep out the dead rot of commercialism, and are we going to be trodden down by this derelict, dead, rotten society of New York, which is continuously sending——. A storm of hisses rendered the final words of the closing sentence inaudible. Every one has heard of Dr. Hare; his works are found in almost every medical library, but who has heard of Dr. Munn? What have the societies, mentioned in Dr. Hare's resolution, done to be characterized as dead and rotten, and held up to the contempt of the American Medical Association by Dr. Munn and his confrères? Simply broken loose from an association in this State controlled by an iron-bound code of ethics, and established one with no code of ethics but that of the gentleman. These societies are composed of some of the most advanced men in the State, who have stepped out of the thralldom of the sixteenth century into the light and freedom of an age teeming with life and progress. Possibly the American Medical Association will learn, at no distant day, that the walls of truth stand, but the walls of denominational separation are crumbling. Let the standard of the new school of scientific medicine be unfurled, and the thoughtful, unprejudiced minds of all schools will rally to its support.

YELLOW FEVER.

NOT the least of the good fortune of our troops during their arduous work in the tropics is that in the fall of Santiago, after a short investment, the danger of the spread of yellow fever, from exposure in the trenches and in the malarial district, will to a certain extent be eliminated by the removal of the camps to higher ground and the thorough disinfection of the city which will naturally follow its occupation by our troops. Gen. Leonard Wood, the Military Governor of Santiago, is an old army surgeon who had seen plenty of guerilla warfare in the West and Southwest, where for many years he had served with success. When war was declared with Spain he was stationed at Washington, and was the President's physician, and resigned his position to take command of Roosevelt's Rough Riders. The professional knowledge of the fighting doctor will be of the greatest value in dealing with the sanitary conditions of Santiago. The type of yellow fever thus far is of the mildest character, and has been attended with but slight fatality.

There are three stages of the fever of four days each. First, there are the four days in which one can be said to be getting the fever, four days in which it runs its course, and four days in which the patient either recovers or dies. There is no better place to treat the disease than in a camp hospital. There the patient can be controlled and regulations and orders can be enforced. The patients are in tents, and, if necessary, booths can be built Thus there is always a good draught of air, which is absolutely necessary.

Yellow fever has been endemic in Cuba for over 100 years. The public records show it yearly for over 100 consecutive years. In all that time Spain has taken no known measures to stamp out so dire a foe to her own children. The public presidio, or prison, at Santiago has no outlet for drainage. At night, after the people are in bed, its accumulated filth is allowed to run down a public street to the sea. The military hospital, situated on an elevation in the upper and back part of the city, near Concha avenue, is a vast establishment. It occupies a large space. Within the inclosure there is a vast cesspool with no outlet. It poisons the air and infects the soil. As one would expect, yellow fever is a constant quantity when susceptible material offers.

While Spain has lost tens of thousands of soldiers and sailors in Cuba from preventable disease, that has taught her no lesson. The wicked loss of life and its cost to her as a nation has not been weighed. In times of peace her soldiers have died in thousands; in times of war in tens of thousands. The Ten Years' War—1868 to 1878—cost her 200,000 men, the flower of the Spanish Army, of whom 191,000 died in hospital—largely of climatic disease—while less than 10,000 fell in battle or died of wounds received in action.

Spain's neglect of sanitation in Santiago de Cuba is duplicated in San Juan de Porto Rico. Her methods seem almost incredible. The main military and naval hospital in Havana has 1,500 beds. It is a substantially built place, near the end of the foul and pestilent harbor of Havana. All patients are sent to it from the army and ships. Yellow fever patients are not isolated. For many years the building has been a center for distributing the poison of yellow fever. That hospital is the medical storehouse for the island

system of hospitals. All supplies, including bedding, are sent from it. Yellow fever may be found at some port or town all the year around.

England had her experience with Jamaica after Spain was forced to abandon it. England's sailors and troopers died there in thousands. It was a pest hole. Pure water was introduced, the soldiers and sailors were instructed and watched, unhealthy sea-level camps were abandoned, the death rate fell from 121 per 1,000 to 11.13, and this was due wholly to sanitary measures, camps in the mountains, and the introduction of black regiments (West Indian negroes), officered by white men. Had Spain kept abreast with England, Cuba to-day would be healthful and fairly safe for Europeans and Americans.

PREREQUISITES OF GOOD BREEDING.

THE old saying, "virtue is its own reward," has indeed a very high value, and is of priceless worth to every woman who desires entering into a matrimonial contract with the consciousness that she is *able* to be the mother of her husband's children, and *not* the mother of children partaking of the characteristics of some one else, says H. B. Garrigues, in the *New York Polyclinic*.

That the sexual act produces an impress on the mind and on the whole spiritual make up of the woman is especially the case when occurring the first time. The advent from the virgin state affects the entire future by leaving an indelible stamp of the occurrence, and of all the factors entering into it, on the mind and reproductive apparatus, so as to reproduce itself in the child, if pregnancy is the result, or on the woman if such is not the case. And that this impress is changed and modified by the woman coming in contact with various members of the opposite sex, is, for reasons above stated, my firm belief.

The impress occurring during sexual union, and becoming part of the mind of an unborn child, *only* does the child justice when it has the sanction of divine and human law through the channels of church and state without this it is a blight, never to be obliterated.

The superior qualities of a mind and body brought into the world subject to the above mentioned natural laws, supplemented by time-tried laws of man, as compared with the chances of failure if started in life under opposing conditions, should be, when understood, a sufficient incentive to men and women to give this vital subject the consideration it deserves both before and after mating themselves.

Virtue—chastity—is not a thing that can be trifled with, thinking that, if the act escapes human notice, all is well. This is a grave mistake, as the impress is made for all time and remains a part of the individual.

Memory registers, especially on the mind of the woman, with accurate certainty, all the details connected with the sexual act, such as prominent characteristics of mind and body, color of hair, eyes, sound of voice, etc., the impression becoming less vivid with the frequency of the occurrence. To get the finest result, as regards progeny, sexual intercourse must be limited.

A girl *is once indiscreet* and after the lapse of years is married: At the first approach of her husband, the first touch, memory turns backward like lightning and if it does not obliterate the entity of her husband and place another in his stead, either wholly or in part, almost a miracle will have been performed.

The possibility of successfully elevating humanity so far as character and quality are concerned is, in my opinion, certainly along these lines; and, however difficult the lines may seem, the degree of success is surely in direct ratio to the care and closeness with which they are followed. That better men and women can be produced through more attention to the cultivation and development of the mind as a check, or restraining power, is undoubtedly true.

NATIONAL VITAL STATISTICS.

THE story of the vital statistics of the United States, as told in the last of the thirty volumes of the census of the United States, taken in 1890, which has just been issued by the government press, is an index pointing with unerring certainty to the vital force, physical development and strength of races and of nations. From this volume we learn that the death rate in the United States is less than of any of the European States except Norway and Sweden, amounting to 18 to the 1000. Norway and Sweden fall slightly below this ratio. On the same basis upon which this ratio is calculated, Great Britain has a death rate of 19.4, Ireland of 18.2, France of 22.5, Germany of 24.4, Austria of 29.5, and Hungary of 32.4, the highest death rate of any nation in Europe.

The American death rate is in almost every State in the Union higher for males than for females. There is an excessive mortality among males in the earlier years of life, which, although the sexes differ but little in this regard at more advanced ages, makes itself felt in the total statistics. Males are also enormously more subject to certain common causes of death than females. Thus they are five times more likely to die of

alcoholism, four times more likely to commit suicide, and three times as likely to be killed by accident. Females on the other hand succumb more readily than males to many of the diseases common to both sexes.

The death rate is everywhere, not excepting the Southern States, higher among the negroes than among the whites. It is also somewhat higher among the foreign-born population, and that part of the population that has one foreign-born parent, than among native-born. The greatest mortality is found among the children of mothers born in Italy, Bohemia and Hungary. The death rate is invariably lower among married persons than among the single of the same ages.

Out of 1,000 deaths in the course of the year the largest number, or 100.93, will take place in the month of January. May and March follow with the next largest numbers, or 94.37 and 94.28 respectively. November is shown to have the lowest death rate, or 67.31. June is next in this particular with 72.51, and December with 72.55. It is really curious that the second deadliest month, May, is immediately followed by the second healthiest, June, and the third healthiest, December, by the deadliest of all, January. Among children under 5 years old the greatest mortality is in July and August, and the lowest during November and December. Persons over 60 die in greater numbers in January and March and have the lowest rate of mortality during June and July.

THE TYPEWRITER AND HEALTH.

THE typewriter has won its way so completely wherever much writing is done that any evidence of the influence which it may exert upon health deserves attention. The London *Lancet*, commenting on this subject, refers to a note published in the *Phonetic Journal* from a correspondent who, in response to the question, "Has anyone ever known of a genuine case of typewriters' cramp induced in a normal constitution by the use of any standard machine?" replies that he suffers from cramp so produced and has heard of two other cases. "The *Phonetic Journal* was, in the first instance, disposed to doubt the existence of typewriters' cramp, but admits that the case of its correspondent is a genuine example of the affection. Typewriters' cramp belongs to what Dr. Poore calls the professional impotencies, and its occurrence after the nimble, oft-repeated movements of the typewriter's hand and fingers is a thing no more to be wondered at than pianists' cramp, compositors' cramp, or tailors' cramp. In the course of time it is but too probable that typewriters' cramp will become if not as well known, at least as recognizable, as ordinary writers' cramp. But, if the spread of the tpyewriter brings to its user the risk of cramp, there is, if an American journal is to be believed, a balance of advantage to be set down in its favor. 'The death-dealing corset,' we are told, 'has found in the typewriting machine and the bicycle two implacable foes.' No expert can manage either the typewriter or the bicycle while she is held in a close fitting cage of whalebone and steel. If this contention is good and capable of proof, then the influence of the typewriter on the health of at least the female section of those who use it must, in spite of the risk of typewriters' cramp, be regarded as beneficial."

THE BICYCLE AND THE APPENDIX.

THE *British Medical Journal* says: "The bicycle is taking the place of the cigarette as a pathological scapegoat. When so heavy and so complex a burden of diseases has been laid upon it, one more might seem to be of little importance, were it not that this last straw is—appendicitis. Yet, as everyone rides a bicycle nowadays, and as, if we may believe some modern authorities, nearly every one has had or will have appendicitis, the wonder is that the connection between the two series of phenomena has not been perceived sooner. The discovery, it is scarcely necessary to say, comes from America, where there is, we are assured, a 'boom' in appendicitis. The condition is caused, it is alleged, by the contractions, too frequent or too violent, of the psoas iliacus which bicycling involves. Hence results contusion of the appendix, followed by desquamation of its mucous membrane; this makes a breach through which infective agents find their way into the walls of the appendix and set up inflammation. The straining caused by going up hill makes the danger all the greater. In persons who have already suffered from appendicitis, bicycling may easily lead to rupture of adhesions and to the development of an acute condition. Some little time ago an American practitioner was so impressed by the dangers to which the possession of a vermiform appendix exposed mankind that he suggested its systematic removal in childhood as a prophylactic measure. In these days, when bicycling is so fashionable, this proposal may perhaps have to be taken into serious consideration."

COLORADO CLIMATE.

THE Governor of Colorado, in welcoming the American Medical Association to Denver, was enthusiastic when speaking of the climate

of his Rocky Mountain State. He advised the association to ride around Denver and notice the magnificence of the homes of the local physicians, which, he said, had been built mostly from fees really due to the climate, but collected by the doctors, who are self-appointed agents to levy a royalty on all climatic cures. However beneficial the dry, cool, elevated climate of certain portions of Colorado may be in the early stages of consumption, before there is any actual breaking down of lung tissues, it is the general consensus of the most intelligent students of climate in relation to disease, that the high elevations of Colorado are speedily fatal in the advanced stages of pulmonary phthisis.

NEW YORK AS A HEALTH RESORT.

TO people living away from the sea coast, New York City may in time prove a pleasant summer resort. Its easy access to the ocean, the comfort of its large hotels, with their roof gardens, fragrant with flowers and fanned by cool breezes, where the dining tables are spread with no roof above them but the blue arch of heaven studded with bright stars, present a picture of real comfort certainly not equaled by any watering place by the seashore, especially in those portions of the day when people like to be out of doors.

If we are to believe the report of the Board of Health, New York is one of the finest summer and health resorts in the world. During the past six months of the current year the number of deaths is lower than at any corresponding period since 1886. The city has never been so free from contagious diseases, or the general health of its inhabitants so good as at present. While those who can get away from the city find a change of air to the seashore or the mountains of benefit, our country friends will find no pleasanter resort than the city for their summer vacation.

GEN. MILES' order, allowing only wine and beer to be sold at post and camp exchanges, and enjoining the prohibition of even these articles if any evil effects are noticed, has been well received and will be likely to do much good in the army. Liquor was absolutely prohibited in the Soudan campaign, and the experience of the English Army in Egypt proved most conclusively that in hot climates, at least, the abstinent soldier is far superior in spirit and endurance to those who indulge, even moderately, in alcoholic stimulants.

A SPECIAL writer in the London *Lancet* for June 11 shows that the medical department of the Spanish army in Cuba since the commencement of the insurrection to the middle of the year 1897 was well represented, no less than six hundred surgeons having been engaged in attending to the sick and wounded; of these fifty have died, the greater number from yellow fever. Twenty-five surgeons were wounded on the field of battle and four were killed.

BIBLIOGRAPHICAL.

THE DETERMINATION OF SEX. By Dr. Leopold Schenck.

The Werner Company have given to the public in a very beautiful form, so far as book-making is concerned, an authorized translation of the recent work of the distinguished Vienna scientist, upon a subject which has created the deepest interest in social circles. The work is well written, intended more for the public than the profession, and will repay a careful perusal. Dr. Schenck's investigations commenced over twenty years ago, gradually rising from the lower to the higher forms of animal life, until at last in woman he reached, as he thought, results which unlocked the secret of sex. In the language of the author, "The discovery is based upon the scientific fact that the blood of a grown-up man contains 5,000,000 corpuscles, the bearers of life giving and nourishing oxygen, while the blood of grown-up women only contains 4,000,000. This difference is the basis of the difference of sex of the different moral and physical working powers in man and woman. This proportion is observable in the slightest quantity of blood from a man or woman. All my efforts are directed towards producing the right number of blood corpuscles by the male in embryo. I have succeeded in obtaining this effect by suitable nourishment of the woman." According to his theory the production of male children depends upon the amount of proteid food upon which the woman is nourished before and after the germ cells are deposited, and the completeness of the oxidation processes in the body. According to his theory man has no influence whatever on the sex of the child, so long as he is strong and healthy. All depends upon the woman.

KING'S AMERICAN ECLECTIC DISPENSATORY. New edition. Entirely rewritten and enlarged, by Harvey W. Felter, M.D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, O.; Co-editor Locke's Materia Medica and Therapeutics; President Ohio State Eclectic Medical Association, etc.; and John Uri Lloyd, Ph. M., Professor of Chemistry and Pharmacy in the Eclectic Medical Institute, Cincinnati, O.; formerly Professor of Pharmacy in the Cincinnati College of Pharmacy; Ex-President of the American Pharmaceutical Association; Author of the Chemistry of Medicines, Drugs and Medicines of North America, etc., etc. Two volume edition, royal octavo, each volume containing over 950 pp. with complete Indexes. Cloth, $4.50 per volume postpaid. Sheep, $5 per volume postpaid. Advance subscriptions received by the Scudder Bros. Co., No. 1009 Plum street, Cincinnati, Ohio, general agents.

QUIZ COMPENDS, No 16: DISEASES OF THE SKIN. With 99 Illustrations. By Day F. Schamberg, M.D. Philadelphia: P. Blakiston, Son & Co., 1898.

This little book is designed for the use of practitioners and students as a rapid reference work and key to the study of dermatology. The effort has been made to present the subject of diseases of the skin in a lucid and readable form. Especial attention has been paid to the differential diagnosis and treatment of the more important affections. The author has consulted in the preparation of his little volume the most approved authorities, condensed in matter and clean and comprehensive in style.

HAY FEVER AND ITS SUCCESSFUL TREATMENT. By W. C. Hollopeter, M.D. Philadelphia: P. Blakiston, Son & Co., 1898.

The treatment in this little volume is based upon the experience of the author covering a period of ten years, during which time he has had under his treatment over 200 cases of hay fever, and has not failed to relieve a single patient who has persisted in the treatment. Attention is, of course, given to the digestion and the excretions, and those functions kept in good condition, but the treatment of the disease is mostly local applied to the nasal passage and the throat. As there is a tendency to a yearly return, the patient is advised to anticipate it by a preliminary course of treatment.

SEXUAL NEURASTHENIA. By George M. Beard, A.M., M.D., edited by A. D. Rockwell, A.M., M.D. Fifth edition, with formulas. E. B. Treat & Co., New York, 1898. The editor was for many years associated with Dr. Beard in practice, and the careful revision he has given to this edition renders it as nearly complete as the gifted author could make it.

THE TREATMENT OF CHOLERAIC DIARRHEA. Published by Lambert Pharmaceutical Co.

This is a small volume containing essays by different writers referring specially to the action of Listerine in the treatment of choleraic diarrhea of children.

THE July issue of *The Canadian Journal of Medicine and Surgery* offers a special greeting to "The International Association of Railroad Surgeons," which is to meet in Toronto this year. There is a three-colored supplement, and a poem of welcome by Dr. E. H. Safford, one of the editorial staff. This editorial courtesy and enterprise will surely be appreciated by the readers of this estimable paper.

THE LIVING AGE for July 30 has the address of Sir Henry Irving delivered before the University of Cambridge on "The Theater in Its Relation to the State." The same issue of the magazine gives us the Naval Problems of the War, as discussed by the English expert, Mr. H. W. Wilson.

HYDE ON DISEASES OF THE SKIN. Fourth edition. Lea Bros. & Co., publishers, Philadelphia.

TAYLOR ON SEXUAL DISORDERS. Lea Bros. & Co., Philadelphia.

SCHAEFER'S COURSE OF PRACTICAL HISTOLOGY. Lea Bros. & Co., Philadelphia.

DENNETT'S ESSENTIALS OF OBSTETRICS. Lea Bros. & Co. Philadelphia.

HOSPITAL REPORTS.

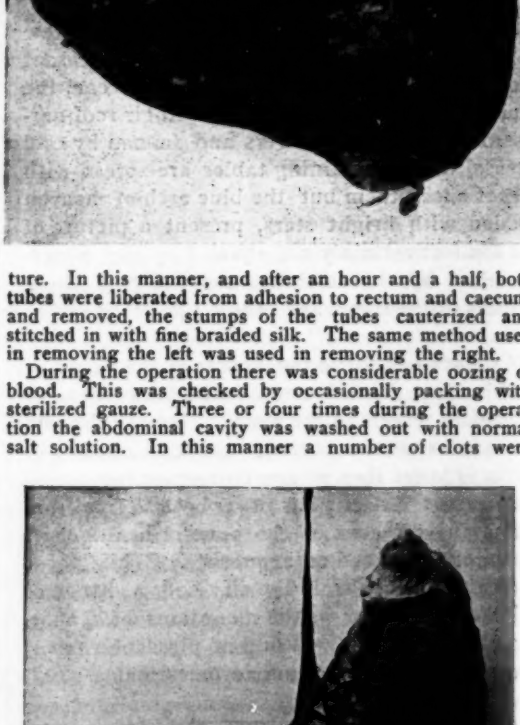
A CASE OF SEPTIC SALPINGITIS—OPERATION AND CURE.—WITH ILLUSTRATIONS.

BY H. T. MILLER, M.D.,
Surgeon-in-Chief, City Hospital, Springfield, Ohio.

Case: L—— S——, age forty years, admitted to the hospital March 10, giving a history of repeated attacks of gonorrhoea; local tenderness; persistent dull pains in the pelvis, which were aggravated by motion, and menstruation painful. Examination revealed both tubes very much enlarged and bound down to adjacent viscera.

The patient was prepared about five days previous to the day for operation, and on the 17th of March the abdomen was opened, revealing the left tube enormously enlarged and firmly adherent to the adjacent viscera. It was curved upon itself (see illustration, which is the exact size and condition of the tube found at time of operation), and firmly adherent to the rectum. The fingers were used to break up adhesions. Where this was impossible and dangerous, for fear of tearing the rectum and causing hemorrhage, the aneurism needle, mounted with fine braided silk was used, cutting between the double ligature. In this manner, and after an hour and a half, both tubes were liberated from adhesion to rectum and caecum, and removed, the stumps of the tubes cauterized and stitched in with fine braided silk. The same method used in removing the left was used in removing the right.

During the operation there was considerable oozing of blood. This was checked by occasionally packing with sterilized gauze. Three or four times during the operation the abdominal cavity was washed out with normal salt solution. In this manner a number of clots were washed out which otherwise could not have been removed by mopping. Before closing the abdomen it was again flushed with the normal salt solution, then thoroughly



dried by using sterilized gauze. A drainage of iodoform gauze was inserted down into the cul-de-sac; this was removed three days after the operation, about three inches being removed every day until all was removed. Here I feel that a mistake was made, for when the gauze drainage was removed there was still some discharge, but fearing adhesions to the gauze, for there had been a great deal of laceration of tissue in the pelvic cavity, it was removed and abdominal wound permanently closed.

From now on the temperature, which previously had not gone above 100 degrees F., fluctuated between 101 degrees and 104 degrees F., and pulse 115 and 145 per minute. However, there was no indication of septic poisoning nor swelling, dullness, tympanites nor tenderness, indicative of peritonitis, and bowels moved every day.

About ten days after the operation dullness over the lower region of the incision was discovered. There was no doubt now that an abscess, from some unaccountable (?) cause, was the cause of the temperature, for after being opened and washed out the temperature fell to normal, and remained there until the abscess had entirely healed. The patient was discharged cured about the 1st of May.

SOCIETY REPORTS.

COMA AND IMPENDING DEATH FOLLOWING HEAD INJURY. OPERATION—RECOVERY.*

By Ap Morgan Vance, M.D., Louisville, Ky.

I have a gentleman here to-night whose history is familiar to the society, as the case has been mentioned on two previous occasions.

On Aug. 8, 1897, while playing baseball in Jasper, Ind., he was struck by the ball, it being thrown from the pitcher, just above the left ear. He was knocked down and rendered unconscious for several minutes; was taken to a drug store in the neighborhood but what was given him I do not know. After recovering consciousness he vomited considerably, but soon afterwards was able to board the train and come to Louisville, and after reaching here was able to walk five blocks from the depot to his home.

Dr. Kellar was called to see him the next day, and Dr. Cecil saw him the day thereafter, and they both thought it was a case of concussion of the brain. I saw him four days after the injury, and took it to be a case of concussion and gave a good prognosis.

The man went along in a state of irritability and excitement for a number of days, then lapsed into a condition of semi-coma, having slight lucid intervals in which he would answer questions, etc., gradually growing worse until Oct. 5. At that time he had run down to such an extent that he was practically in a "typhoid" state. He had no fever, and his pulse was but slightly affected. Dr. Rodman saw him in the interim, and all of us agreed earlier than operation was done that surgery was advisable, believing that there was severe concussion and that an abscess or some other material was pressing upon the brain.

On the fifth of October he was removed to the St. Joseph Infirmary and taking the supposed site of the injury I removed a button of bone about one and a half inches in diameter, no trephine being used, the chisel and rongeur forceps doing the work. The membranes were intact and there was no pulsation under the bone when it was removed. I opened the membranes and there immediately escaped a quantity of very bright fluid. It looked like blood. My first thought was that I had severed a small vessel, but this was demonstrated not to be the case, and the fluid evidently came from a liquefied clot. The pia mater looked degenerated; it appeared as if coal soot had been dusted over it, there being numerous black spots. There was still no pulsation of the brain at that point. The pia was cleansed of this material and the wound was closed with drainage which was left in forty-eight hours.

The patient remained in the Infirmary seven days, was then removed to his home, very little improvement in his condition seeming to have taken place. However, we believed that gradual improvement occurred until the end of the thirteenth week after the operation, when he was able to take more nourishment, and after three or four weeks he showed some improvement in strength. All of this time he had no intellection to speak of. He then came to himself, so to speak, he did not remember anything that had occurred, did not know anything about having been at the Infirmary, and did not know anything about the operation.

To-day he has completely recovered his health and is before you for examination. Two weeks after the operation there developed a drop-wrist paralysis, which has now completely disappeared.

Before leaving the case I would like to mention the method of taking out this piece of bone. I used a small osteotomy chisel, and find with this instrument there is no difficulty in cutting through the thickest bone with perfect ease.

By an examination of his skull you will see that there is a membrane formed over the opening which I hope will thicken and give very good protection to the brain at this point.

*Reported to the Louisville Medico-Chirurgical Society.

BRIEF NOTES ON CONSERVATIVE THERAPY IN THE TREATMENT OF TUMORS.*

Thomas H. Manley, M.D., New York.

All are agreed that the causes of new growths are yet unknown. Under this head Delbet declares that "the study of neoplasms constitutes one of the most obscure and difficult in pathology. The immortal Pasteur and his disciples shed refulgent light on the nature of a great number of maladies, but the origin of neoplasms remains enshrouded in an impenetrable obscurity, and in spite of our accumulated knowledge, we yet know nothing of their etiology or pathology; with their morbid anatomy alone are we acquainted."†

Many difficulties yet lie in the way of differentiating the benign from the malignant forms.

At the present, surgery aggressively attacks quite indiscriminately tumors of every description, especially those deeply lodged in the serous cavities or involving vital organs; and it probably would be no exaggeration to say that now there are more than fifty tumors removed by sanguineous methods for one in pre-anesthetic times, when the horror of physical agony and the dangers of post-operative infection terrified the patient, who bore up with his affliction till all hope of spontaneous subsidence had fled, or all the resources of palliative therapy had failed. Nor was the surgeon entirely free from serious apprehension when he was about to extirpate one of these deeply lodged growths, for it is recorded of the cold phlegmatic Abernethy that on the eve of a capital operation he declared that he felt like a man about to be hanged.

Now, however, with a practical knowledge of the living anatomy in skilled hands, and by the aid of anesthetics and antiseptics, in properly selected cases tumor extirpation should entail practically no operative mortality. This security against accident has given a great impulse to radical interference, so that to-day, in many instances it has, without doubt, led to excessive and needless operating.

The dictum, too, that every tumor is an excrescence, and that in the most innocent, malignant degeneration is possible, has provided a justification for this.

Clinical recognition is ample in most cases; indeed we have made but little positive addition to it by our pathologic studies. The same, to a large extent, applies to the special character of a growth, that is, whether it be benign or malignant.

It is generally conceded that in epithelial proliferation the morphologic characters and arrangement in a certain degree decide the class to which it belongs; but in many of the sarcomata, or in morbid conditions allied to them, the microscope alone is an uncertain and fallacious guide; nor, in either will the morphologic revelation point with anything like precision to the course the lesion will pur-

*An abstract from the *Medical and Surgical Reporter.*

†Traite de Chir., par le Dentu et Delbet, vol. i., p. 217, sur des Neoplasms.

sue if left undisturbed. In all tumors in their stages of degeneration, inflammation plays an important role. As an active process we only observe it after the over-lying integument is broken, or central, disintegrating changes have begun, when infection is hematogenetic or peripheral.

By all odds the most formidable difficulties we encounter in the differentiating of neoplasms is to isolate those dependent on an inflammatory hyperplasia in adenomatous structures or those essentially composed of new elements. This is notably the case in lesions of the buccal cavity, the pharynx, the larynx, the stomach, the rectum, the male or female genitals, or the mammary gland.

Since Koch's discovery it has been repeatedly demonstrated that various types of ulceration involving the penis and bladder, the generative passages, the rectum, and the alimentary canal, formerly regarded as cancer, are tubercular. From the secretions or discharges in these situations the specific bacteria can be rarely isolated, although the inoculation in receptive animals will often produce tuberculosis.

The stellated cicatrization, the induration and the ulceration of actinomycosis present many features common with scirrus. Localized tumefaction of the submucosae of the intestine or integument with gummatous degeneration and ulceration of tertiary syphilis are not altogether unlike the invasion of malignant disease. The strumous diathesis, nowadays said to be a "condition," belongs to childhood, though its manifestations are often witnessed after puberty, is sometimes attended with an infiltrated tumefied state of the lymphoid tissues and organs.

It should be added that we may also have a localized inflammation with turgescence, hypertrophy, fibrosis or ulceration from a local trauma, an irritant or a foreign body.

Until a recent period it was the general opinion of practitioners that new growths productive of no pain or inconvenience should not be molested. But now it is coming to be regarded as a sound principle of surgery to promptly remove a tumor whenever it may be safely accomplished, as it is claimed that once developed it will never of itself disappear, and that it is prone, if left alone, to, later in life, take on malignant changes. This course is all the more strongly urged because of the security which modern science offers against suffering or the dangers of post-operative inflammation.

Do our observations of a great number of these lesions over many years support this assumption? Very much can be said pro and con, though no one will deny that the inducement is great, now that we possess the priceless boon of both local and general anesthesia, to clear any superficial growths wherever situated. When we come to those more deeply lodged it is a more serious question, particularly when the cavities are invaded; for now we have to count on those occasional post-operative sequelae which may produce more misery than the state for which the operation was performed. On the whole, it may be affirmed as a postulate that when a tumor shows no tendency to augment its volume and is a source of no inconvenience or disfigurement it should be left alone. These, we think, constitute a small minority.

A fierce controversy has been waged on the management of benign uterine tumors, since vaginal and abdominal extirpation of them has become so safe and general a resort. An attentive clinical study of this class of growths shows:

(1) That their development is usually insidious; some authors claiming that indolence is the rule in malignancy until the adjacent tissues are invaded.

(2) That when of diminutive volume they occasion little or no inconvenience.

(3) They are well known to undergo marked fluctuations in their proportions.

(4) The tendency of the benign tumor is toward interstitial degeneration, atrophy, condensation or resorption after the menopause in many cases.

5. They rarely, *per se*, imperil life.

There is in London an institution known as the Free Home for the Dying. It is absolutely free and the only passport to admission is a medical certificate to the effect that the applicant is believed to be dying. No distinction as to nationality, age, sex or creed is made. During the year 1897 forty-eight patients were admitted; of these thirty died, nine were discharged, and nine remained.

FRENCH MEDICAL SOCIETIES.

FRENCH MEDICAL CONGRESS AT MONTPELIER.

Peripheral Neuritis of the Insane.—M. D. Auglade—The character of the medullary lesions observed in a great number of the insane, affirm the importance of a study of the peripheral nerves. In effect these lesions are most frequently localized in the regions of the posterior root fibers, and also involve the anterior radical cells and the cells of Clarke, all anatomical signs belonging to the polyneurites. On the other hand also, sensory troubles play an important part in the history of the insane in general. The delirium of some of them is due, almost exclusively, to painful sensations, true or false, and there are often seen in the insane, trophic and muscular troubles. If clinical observation awakens suspicion of the existence of peripheral neuritis, pathological anatomy demonstrates the reality of nerve lesions. The nerve fiber degenerates, and is modified in its myeline sheath, its protoplasm and its deposits. The conjunctive tissue perishes, the intrafascicular proliferates, and an infiltration of round cells invades the entire nerve. This is more intense around the vessels, which are always profoundly affected. What do these lesions of the different elements signify and in what order do they appear? Is the lesion of the nerve itself primary or secondary to the central lesion? The medulla is incontestibly injured and we cannot say if the same is not the case in the brain. But this is a question of general pathology, and it is not sufficient to ascribe these lesions of the peripheral nerves to such toxic influences as alcoholism, saturnism or tuberculosis. There are perhaps auto-intoxicants that fabricate their own poisons among the insane, whose delirium is due to insane delusions evolved from a tangible source of morbid sensibility.

Effects of the X-rays in Experimental Tuberculosis.—M.M. Rodet, Bertin and Paris have seen in two subjects the effects of intense radiation in producing not only falling of the hair and extensive wounds, but also paralytic and convulsive phenomena, which began in the form of paraplegia, soon complicated with tonic convulsions general and irregular, terminating in death in eight or twelve days. The autopsy revealed meningo-myelitis. It seems probable that a direct influence was exerted by the X-rays upon the medulla through the vertebral column, the mechanism of which must be determined by future experiments.

Neuropathy and Its Relation to Congenital and Hereditary Lesions of the Heart.—M. Riberolles—Medical literature has not yet demonstrated any formal conclusions as to the relations existing between neuropathy and the pathology of the vascular system. After a profound observation of a large number of subjects affected with nervous diseases. M. Riberolles has rejected the hypothesis of pure coincidence, which has heretofore been generally admitted. In effect numerous nervous troubles are rarely connected with an anatomical lesion of the nervous centers. In cases in which anatomical lesions exist, they are far from being characteristic, the primary cause of the neuropathy being dependent upon neuro-arthritic heredity. Many authors have admitted that a retardation or an acceleration of the circulation in the nervous centers may and do cause convulsive phenomena, a fact sufficiently demonstrated by experiments upon animals. The conclusion from the above is that there exists a cardio-vascular heredity connected with an anomaly of the circulatory system which causes the subject so affected, and according to the circumstances of life, to manifest neuropathic troubles generally slight or intermittent, but capable, by their frequency or persistence, of developing definite lesions of the nervous system, especially when associated with syphilis or alcoholism.

Alterations of Nerve Cells, Especially the Pyramidal, in General Paralysis.—M. D. Auglade—The method of Golgi shows the moniliform appearance of protoplasmic prolongations, the malformation of the cell body and its atrophy, facts already established by Klippel and by Azoulay. They are not confined to general paralysis, but may be observed in preparations obtained from the brains of melancholics, epileptics or idiots. The results furnished by this method, which do not exist in normal histology, should be reckoned in pathological anatomy. The method of Nissi, modified by Unna, gives more precise facts, and more trustworthy. The pyramidal cell loses its normal

characters in general paralysis, and its modifications differ according to the form and duration of the disease.

Supra-trochlear Adenopathy in Syringo-myelia (Morvan Type) and the Error it May Cause in the Diagnosis of Leprosy.—M. Jeauselme—Monilform thickening of the nerves is a symptom which is generally considered to be pathognomonic of leprosy, but there should be a certain reserve as to the value of this symptom. In two cases in which the diagnosis of syringo-myelia—Morvan type—was unanimously agreed, the ulnar nerve was marked with tumefactions, but a more minute investigation of this symptom disclosed the fact that this peculiar aspect of the nerve was due to supra-trochlear lymphatic glands in a state of chronic inflammation from a recurrent panaris, against these the cubital nerve remained intact. This clinical opinion is supported by an anatomical examination made at the conference of Berlin; and in effect, a biopsy showed the reality of this association of the hypertrophied glands with the cubital nerve.

Intermittent Sialorrhea in the Course of a Slow Uremia.—M. L. Renon observed the above in a case of cardio-renal Bright's disease. It only occurred during exercise, when the patient walked in his room, or in the street, and ceased while sitting or lying down. It also disappeared on certain days and weeks, to appear on the following days. The quantity of saliva produced was considerable, at one time 100 grams escaping from the mouth in ten minutes. It contained 0.059 grains of urea; in 100 cubic centim. of saliva, and the urine diminished in quantity during the salivary crisis, and contained less urea, there existed a marked balancing between the two secretions. The sialorrhea was not accompanied with stomatitis, there was no redness, pultaceous softening nor ulceration of the buccal mucous membrane, nor was there a trace of gastro-intestinal uremia, diarrhea nor vomiting. This intermittent sialorrhea, without stomatitis, should be distinguished from that with uremic stomatitis (Laucereaux, Barie), which depends directly upon the uremic lesions of the buccal mucous membrane. It appears rather to be due to the action of toxic products, either of the salivary glands or of the central or peripheral nervous system, thus resembling the sialorrhea recently described by Klippel and Lefas. The therapeutic indication consists in relieving by diuretics the difficulty of urinary depuration, but it perhaps would be wise not to interfere with the salivary hypersecretion, if it is not too troublesome, because it supplements renal function, and serves to divert grave uremic accidents. M. Mathieu: In this observation, the absence of dyspeptic troubles may be remarked. This fact is rare; in all cases of sialorrhea that have come under my investiation the efficient cause of this symptom was referred to gastric functional disorders. M. Rendu: The sialorrhea in the case of M. Renon's patient probably proceeded from a central cause, and may be compared to the hiccough which frequently occurs in similar conditions.

Salicylate of Methyl in Rheumatism.—M. Catrin presented to the society the results of his observations in the treatment of rheumatism by the above remedy. In an attack of acute articular rheumatism, except where there is absolute intolerance of the stomach, the two salicylates of methyl and soda may be administered concurrently, each of them seeming to perform its own part against the principal symptoms of the disease, the salicylate of methyl for the pain, and that of soda for the fever. It is especially in subacute or chronic articular rheumatism, the same in gout, that this treatment appears to reach its maximum of efficacy. M. Siredy: The salicylate of methyl should be especially employed in chronic rheumatism and it always succeeds in these cases where the coverings of the joint are perfect. Care should be taken not to employ the salicylate of methyl in the form of a pomade, as M. Linoissier has shown that if so used, the drug loses its efficacy. As respects the simultaneous employment of the salicylates of soda and methyl, this seems to be rather detrimental, as the accidents usually attributed to the salicylate develop more rapidly. M. Netter remarked that the salicylate of methyl has no curative action in sero-fibrinous pleurisy, while that of soda gives very good result in this affection. M Renon has greatly relieved attacks of sciatica by the salicylate of methyl, which had derived no benefit from the employment of salophen.

OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

Secondary Extra-Uterine Peritoneal Pregnancy.—M. Doleris presented the results of an operation practiced upon a young woman who had shown signs of pregnancy up to the eighth month, after which no indications of life in the fetus were experienced. An examination revealed the presence of two abdominal tumors. Laparotomy was performed, and a fetus of about eight months was found free in the abdominal cavity, entirely healthy and united by the cord to the placenta, which was still retained in the broken tube. The tubal pouch must have been broken about the 5th month, and the fetus was developed secondarily in the peritoneum. The placenta continuing attached to the tube.

Vulvar Hemorrhage of Children.—M. Doleris—In the Hospital Boucicaut there was an epidemic of vulvar hemorrhage in newly born children; death supervened in five cases. Such cases are extremely rare, and no similar observations are recorded. Most generally, vulvar hemorrhages of young children are considered as phyisological and the consequence of ovarian development often produced at birth. We ask to what cause may these hemorrhages be attributed? They must evidently be related to other hemorrhages, such as meloena, omphalorrhagia, purpura, which are often seen in newly born children. But still the pathogenesis of these accidents is but little known. Syphilis causes a special predisposition to hemorrhage, imperfect ligation of the cord, and a congenital weakness of the vascular parities. Of late, the infectious origin of these hemorrhages has been insisted upon, and especially that micro-organisms penetrate the system by the umbilicus. Of the five cases reported above, autopsy could be had only in one child. The blood was sterile, and liver contained streptococci; the point of infection was vainly sought for, as the umbilicus was intact. The mother had no mammary lesions, and general sanitary service excellent, and it has been a question if it might not be due to some imperfection in the construction of the new Maternity.

Inversion of the Thoracic and Abdominal Organs of a Newly Born Child.—M. Mastreiner—A case of a female child born at term. The mother was a primipara without pathological antecedents, and on the first and second days the child developed cyanosis and died in spite of all efforts to animate it. Autopsy revealed an inversion of the thoracic and abdominal viscera, with the spleen and small lobe of the liver on the right, the heart occupying the right side of the thoracic cavity. It is reasonable to suppose that the cause of death was due to some cardiac malformation. That explained the cyanosis.

SOCIETY OF RUSSIAN PHYSICIANS OF ST. PETERSBURG.

The Destruction of Toxines by the Digestive Juices—Prof. Nencki.—It has long been known that a large number of toxines and poisons, that are mortal when injected subcutaneously, become harmless when administered in the same doses by way of the stomach and intestines. Then the gastro-intestinal juices have the power of destroying or neutralizing these toxines. Very numerous experiments upon guinea pigs, rabbits and dogs with the toxines of diphtheria and tetanus, have shown that as a general rule the gastric juice neutralizes the toxines much more rapidly, as the contact is more prolonged, and the experiment is made upon an animal whose temperature is 36 to 37 degrees. Thus if a mixture of 0.2 gr. of gastric juice with the same of diphtheric toxine, a dose ten times mortal, is injected, the animal will survive. If the mixture is left for fifteen hours, a dose of the toxine, sixty times mortal, may be injected. The pancreatic juice possesses the same properties as the gastric juice, it neutralizes a dose, ten times mortal, of diphtheric poison, at the end of fifteen hours, and a dose sixty times mortal when the mixture is left in the autoclave at 37 degrees for fifteen hours, a dose 300 times mortal. The same results are obtained with tetanic toxine. The bile exercises no neutralizing action upon diphtheric toxine, but it is clearly seen with the tetanic. The highest destructive power is possessed by a mixture of bile and pancreatic juice, a mixture of 0.02 gr. of the former with 0.06 of the latter will destroy a dose 150,000 times mortal of tetanic toxine. It is not the jucies themselves that are effective, but their ferments. If the acid reaction of the gastric and pancreatic jucies is neutralized by chemical alkalies, they no less preserve their destructive power over the toxines.

Opotherapy—Panglandine.—Since 1892, the epoch in which the illustrious physiologist, Brown Sequard, exposed the theory of the glands of internal secretion, and showed that their extracts, when taken from animals in full vigor

were capable of removing the diseases of man that were caused by the destruction of one or the other of these glands, there has been no cessation of experimentation to discover what are the preparations and what methods of introduction are the most favorable to produce their maximum of effect. After innumerable trials, a product has been realized which has yielded the best results. To it the name of Panglandine has been given, a name that indicates its composition, as it contains the extracts of all the glands which indisputably possess an internal secretion. All the agencies of internal secretion have been made to enter into the composition of the product, because up to the present time the active agent of each organ has not been isolated, and each secretion must act upon another organ in order to insure its perfect functional activity and power. The idea is admitted by all authors, and may thus be formulated that, cellular elements exercise upon each other reciprocal actions or influences which consist essentially of this fact: that the life of a cell provokes modifications of intensity, or even of intimate cordiality in the life of other cells. This influence is exercised at a distance without any contact between the cell elements, and effects are produced as though living cells, isolated or grouped, constituted batteries of closed circuits of life, capable of exercising an influence upon other circuits of the organism—vitalization by influence. Examples of this action from a distance abound; it only suffices to cite the testicles and ovaries upon the whole of the economy; that of the pancreas upon the liver; of the suprarenal capsules upon the integument; the thyroid body upon the general tissues, etc., etc., so that to make the hepatic extract to supply the place of the absent pancreas is entirely logical and scientific. The great functions are only apparently independent. They are accomplished only by a sort of pre-established harmony which requires, in order to maintain them a veritable unity and solidarity, comparable in a measure to universal attraction by which are created the different cosmic formations of the same solar system. It is by reason of this solidarity which exists between all the component cells of the economy, and which has a restraining influence upon the independence of each of them, giving to each the power that belongs to it, that Panglandine is believed to be indicated in all circumstances and conditions in which the economy may be deficient partially or totally in glandular sufficiency. The destruction or failure of a gland may involve the same of all the other glands of the organism. Panglandine has, then, a logical existence, a point to be insisted upon. Composed of extracts of all the glands of internal secretion: thyroid, testicles, ovaries, pancreas, liver, spleen, thymus, suprarenal capsules, etc., in natural and rational proportions, it would seem to be specifically a dynamogenic and physiological agent furnishing, directly and without secondary cellular action, a substance that is deficient in the organism by virtue of the fundamental principle of therapeutics laid down by Claude Bernard, that medicinal or toxic agents always act in the same way, and always by such an order of cellular elements. After being satisfied from numerous experiments upon animals, pursued for several years, that Panglandine was not toxic, that it was absorbed, and that it acted after the removal of this or that gland, it was administered to patients, and it was always observed, whatever might be the failing organ, that there was a considerable increase in the elimination of the materials of the urine—urea, uric acid, phosphoric acid, chlorides, etc. At the same time an increase in the physical forces from the first days of administration of the Panglandine, return of appetite and a greater abundance of ingested substances. All the weak and feeble, from whatever cause, old age, neurasthenia, repeated pregnancies, etc., were admirably restored by Panglandine. The same with saccharine diabetes, chlorosis, tuberculosis in the early stages, arterio-sclerosis, etc. When the preparations of theo bromine kola, cafeine, glyceron-phosphates have been tried, more rapid, more intense and more durable results have followed the use of Panglandine.

SOCIETY OF LEGAL MEDICINE

M. Briant being impressed with the difficulties which often arise when intervention becomes necessary in the case of an insane person affected with a surgical disease, demanded of the Society whether the surgeon, yielding to the solicitations of the family, or having simply secured authority from it, has a right to operate against the wishes of the insane patient. This question is assuredly fraught with dangerous consequences to the surgeon, in case of the recovery of his reason by the patient, and the demand for damages for an operation to which he had not consented. Among other examples, M. Briant reported the case of a young woman who was persecuted and afflicted with grave metrorrhagia, caused by a uterine fibroma. During her periods of mental lucidity the patient obstinately resisted all intervention, giving reasonable arguments against it, such as the respect for individual liberty, a hope secretly entertained by the family of getting rid of a troublesome patient in case of a fatal issue, etc. Despite her resistance she was subjected to hysterectomy by a surgeon upon the express demand of the family. The metrorrhagia disappeared, but the insanity remained. M. Briant desired to know if under such circumstances the surgeon had done his duty. M. Picque thought that such cases which occur more frequently than is supposed, may occasion great trouble to the surgeon. For fifteen years during which he had been connected with asylums he had often deplored the absence of a formal law clearly establishing the duty of the surgeon in cases of insanity that needed surgical intervention. With the hope that a law, clearly formulated, and taking cognizance of all such special cases would be able to put an end to this intolerable condition, M. Picque demanded that the Society of Legal Medicine should make this question the order of the day for a succeeding session.

SOCIETY OF BIOLOGY.

Iodine of the Organism.—M. Gley.—Bowman has demonstrated that there exists iodine in notable quantity in the thyroid body (about 1 milligr. in 10 gr.). I have shown that the parathyroid glands contain a much larger proportion. Since then I have discovered, by Bowman's process, iodine in other parenchymata. The liver and spleen contain it, but in very small proportion. The liver, when bathed by a prolonged current of water, in order to remove every trace of blood, does not contain iodine, hence the conclusion that it is in reality in the blood which nourishes the liver that iodine is found. In effect by dosing with iodine the blood of the dog, the rabbit, and man, quantities nearly constant have always been found. In the adult man the figures oscillate about one milligr. to the liter of blood (maximum, 1.3; minimum, .07). Iodine does not exist in the serum, nor in the plasma, but entirely in the globules. In the fetus there is no trace of iodine anywhere in the organism. I have searched for this body in vain in the ashes of entire fetuses incinerated. It must be admitted that iodine is introduced into the organism subsequently to birth by alimentation.

Arsenic as an Antidote to the Thyroid Extract.—M.M. Bedard and Mabille, Lille.—We know that thyroid medication in large doses produces cardiac rhythmic irregularity and trembling. These signs of poisoning are easily produced in the dog when subjected to thyroid alimentation. If the animal takes at the same time arsenic in the form of Fowler's solution, strong doses of the thyroid body may be given without causing any trouble, hence it would be well to associate arsenic with thyroid medicature.

Lesions of the Pancreas in Uremia.—M. Lefas.—In uremia there are two kinds of pancreatic lesions. First, an intralobular sclerosis, caused doubtless by the same process as interstitial nephritis. Second, degenerative cellular lesions (necrosis, of coagulation, tumefaction, etc.). The last are the direct result of uremic poisoning.

A New Tuberculine.—M.M. P. Ramond and Ravant—The bacillus of tuberculosis of fish, discovered by Dubard, secretes a toxine whose properties are analogous, in great measure, to those of tuberculosis extracted from the cultures of Koch's bacillus. Roux demonstrated long ago that the tuberculine obtained from aviary cultures produces absolutely identical effects upon the animal and man as that from cultures of human tuberculosis. So it would be interesting to know if from the tubercular bacillus of fish, a toxine can be obtained having the same properties, and the results of our investigations have positively confirmed this hypothesis. A toxine has been obtained, and its properties, physiological and biological, demonstrate its analogy with human tuberculine, and as a consequence it is evident that this bacillus, isolated by Dubard, must belong to the same great bacterial family of tubercular bacilli. It remains to prove if this bacillus is directly derived from the bacillus of Koch, and if its properties are due to its passage through the organism of cold-blooded animals.

SURGICAL SOCIETY.

Hematuria, Removal of the Kidney.—Cure.—M. Pousson.—The patient was attacked with uremia and profuse hemorrhages, coming from one ureter. Nephrectomy performed, hemorrhage ceased, and the cure progressed favorably. The kidney was sclerous nearly its whole extent, and where the sclerosis did not exist there was enormous congestion of the medullary substance. This caused the dangerous hematuria and determined the nephrectomy.—M. Poisier: The fact of chronic interstitial nephritis, with hematuria, lasting several months, justifies nephrectomy, which arrested the hemorrhage. But some months later the patient was attacked with grave asthma and pulmonary congestions, to which he finally succumbed. The remaining kidney was certainly affected with nephritis, producing complications which the patient could not support. M. Monod: If upon opening the kidney no local cause—calculus or cyst—can be found to explain the hematuria, I consider it most imprudent to remove the kidney. M. Pousson: I do not advise nephrectomy in all cases of nephritis. I examined my patient she was suffering, very feeble, and bleeding dangerously. I was authorized and forced to remove the kidney.

MEDICAL SOCIETY OF THE HOSPITALS.

Polycystic Kidneys.—M. Ferrand presented a case of cystic kidneys remarkable in many respects. First: The numerous cystic lesions have not only transformed the two kidneys into two voluminous polycystic tumors, but have also developed several small cysts in the substance of the liver, also in the ovary, giving to the disease an appearance of parasitism, of which the kidney would have been the primary seat, and would have extended to other viscera. Second: The renal substance, not apparent at first, was disseminated among the cystic groups, and was sufficient to insure urinary emunction.

ANATOMICAL AND PHYSIOLOGICAL SOCIETY OF BORDEAUX.

A Case of Bilateral Development of the Mammary Glands in a Man with Anal Menstruation.—M.M. Quintrie and Michel.—A patient with facial paralysis—right—and difficult articulation, and who had, besides, other symptoms that determined his coming into the hospital, the following: First, The presence of two mammary glands, clearly lobulated. Second, Menstrual discharges, occurring for eleven years; no such phenomena in father and five brothers. At the age of thirty-eight the left breast became painful, which was not heeded, but it persisted and examination detected a granule resembling a bean; the right became enlarged in turn and both attained the size of an orange; there was no lacteal secretion. The upper limbs diminished in size, the lower remaining normal. The following year violent sacro-lumbar pains ensued, and blood escaped from the anus lasting two days. After twenty-eight days the same phenomenon recurred, and was repeated every twenty-eighth day for eleven years. There were no hemorrhoids, external nor internal; rectal touch revealed nothing. The genital organs—penis and testicles—perfectly normal; erections and ejaculations natural, and pelvis also normal. Had four children, a girl at thirty years, another at thirty-five, a boy at thirty-seven and boy at fifty-two years, by another woman. From researches made we find three observations by Cruveilhier, Murat, Patissier and Humbold of mammary glands, so developed, with marked lacteal secretion.

Euquinine in Diseases of Children.—M. Alexeff—Euquinine, which is the ether-ethylate of quinine, is employed in the same affections as quinine, but has not its bitter taste, and is well tolerated by the digestive organs, with much less ringing in the ears and head disturbance. It is very successfully employed in paludal fevers of children. The first dose is administered five hours and the second three hours before the crisis, and given in milk, coffee or tea, no accidents observed. M. Pilatow has employed euquinine in a number of febrile diseases, not malarial, of children, is satisfied that it possesses identical properties with quinine, no bitter taste and is invaluable in infantile practice.

SOCIETY OF INTERNAL MEDICINE AT BERLIN.

Leprosy and Syringomyelia.—M. Goldscheider presented several patients affected with syringomyelia, who greatly resembled lepers. 1st. A man of forty-eight years, whose fingers were mutilated. When he was nine years old he slept before a very hot fire and his back was burned without his feeling it; at this time he was already analgesic. Afterwards, at the age of nineteen years, he was attacked with an ulceration of the ring finger, which required amputation. The thumb, index and middle finger became affected in turn, the little finger alone remaining intact, but atrophied. It is well known that thinning of the fingers and limbs is characteristic of leprosy. In fine, the subject was analgesic, and had no sensations of heat or cold. Again, there were no nodosities along the course of the nerves, nor was the bacillus of leprosy found in the blood or secretions; he was then affected with syringomyelia and not with leprosy, nor had he lived in a country where leprosy prevailed endemically. From these facts it results that syringomyelia and leprosy may be confounded because of their resemblance to each other, but the theory of identity of Mowan's disease with this disease cannot be sustained. The second patient is analogous to the first. He is affected with cyphosis and hemiatrophy with fibrillar trembling of the tongue. This symptom is never observed in the leprous but only in the syringomyeliac. The third case is that of a young girl affected for six years. She observed at this period an insensibility of the fingers of the right hand, upon which small vescicles filled with serum appeared. In 1893 an ulceration followed by necrosis was observed at the points of several fingers, and in some of them spontaneous amputation occurred, others were amputated surgically, and the operations were performed without the least pain. On the right the muscles of the thenar and hypothenar eminence are atrophied; the same with the forearm. The right pupil is smaller than the left, which is often seen in syringomyelia, and it exists from the beginning of the affection. The bacilli of leprosy have not been found in this patient, although a portion of the skin near the ulceration has been removed and examined. Like the first, these two patients have not lived in a country subject to leprosy. These three cases show clearly the impossibility of confounding leprosy and syringomyelia under the same denomination. J. A. C.

CORRESPONDENCE.

PHILADELPHIA LETTER.

BETTER WATER FOR GREATER PHILADELPHIA.—Just how long it would have been before the City Council would have provided for this city, if such active interest had not been taken by the physicians of this city, may perhaps never be known. The truth is, however, that after waging war for months against a series of corruptions, and after the worst epidemic of typhoid fever possible this city has ever or will ever pass through, those men have at last done their simple duty and passed the Loan Bill, amounting to $11,200,000. A part of this money will be appropriated for the erection of a proper filtration plant for this city, and it is now thought that instead of having 212 cases of typhoid fever during one week, as occurred some time ago, this disease may be brought down to its correct proportions. A large part of the funds will also be spent in the paving of streets, erection of a musuem and in the general improvement of the city.

The result again proves that eternal vigilance on the part of physicians is the means by which to procure the necessary legislation looking to the public health.

HOW FREEING CUBA WILL AFFECT CHARITABLE INSTITUTIONS IN PHILADELPHIA.—That clause of the new war revenue law relating to taxes placed upon legacies and inheritances of over $10,000 will work a hardship on institutions which can ill afford to bear it. It should be remembered that medical colleges, institutions of learning, hospital, etc., are largely kept up by this means, and placing a tax upon legacies will virtually take from them many dollars which annually go to the support of those people who are sick, out of a home and out of employment.

Provost C. C. Harrison commenting upon its baneful effects, recently stated: "Hereafter we will have to pay 10 per cent. on our larger legacies, $10,000 on every $100,000 bequest we receive. For the State already taxes us 5 per cent. in addition. It is a very severe and a very improper thing. For example, a bequest we have recently received from Mr. John Field of $50,000

would have been reduced by $5,000 if this new law had been operative when the bequest was received. The State would have taken $2,500 and the Goverment would have taken another $2,500. Such a tax will have the effect of driving away large bequests. It will have a very deterrent influence upon people disposed to leave in their will large sums for charitable purposes, and it is a most unwise measure.'

For example take the University and the Pennsylvania Hospitals. The treasurer's report of the former institution shows that in 1894 a bequest of $50,000 was received and the total tax on this would have been $5,000. Last year other large bequests were received and a portion of this would have been diverted toward the support of this war measure.

Another hospital here, one of the oldest, one of the most generous, one of the best—the Pennsylvania Hospital—will be more seriously crippled than perhaps the University. The treasurer's report of the latter institution shows that in 1894 $2,500 would have been paid in taxes; in 1896 the bequest aggregated $88,014.99, $80,000 of which were in amounts larger than $10,000, and consequently would have been assessed $8,000. In 1897 the hospital received one legacy amounting to $20,000, and taxes would have been collected.

It is stated that this institution during the coming year will show bequests aggregating possibly $300,000, a large portion of which will come under the war revenue tax. It will, therefore, be a cause for serious consideration in just what manner the Government will provide for its needy paupers.

Examination for Graduates of Medicine in Pennsylvania.—At the recent meeting of the State Board of Medical Examiners of this State, there were 317 applicants, 270 of whom received certificates, 44 failed to pass, 2 were expelled for unfair methods and 1 withdrew to join the army. Dr. William B. Stouton, of Philadelphia, received the highest general average, making 91.73 out of a possible 100. The board charges a fee of $25 for the examination.

Dr. John Guiteras Receives a New Commission.—It will be remembered that a short time ago it was stated that Dr. John Guiteras had been sent to Tampa by the Government to instruct the United States troops in regard to taking the necessary precautions against contracting yellow fever. It is gratifying to state that he has been recently appointed a brigade surgeon with the rank of major. As he will be on his native soil, and being a thoroughly educated gentleman, his experience will be of the greatest value to the Government during the campaign to be inaugurated there.

One Year with a Broken Neck.—It is stated that John Keogh, a lad of nine years old living near Philadelphia, while gathering honey from a tree last June fell and sustained a fracture of one of the cervical vertebræ. The diagnosis was confirmed by means of the X-ray, which detected a fragment of bone compressing the spinal cord. An operation was performd and the offending particle removed. The boy subsequently recovered to the extent that after having the proper appliances put on he was strong enough to be wheeled about the grounds of the hospital in an invalid's chair.

The patient died in Cooper Hospital, Camden, June 1, 1898.

Blockley Hospital Will Have to be Enlarged.—Notwithstanding the fact that this hospital has about 4,000 beds and is the largest institution of the kind in the United States, it is nevertheless time that the overcrowding there demands serious attention. For a long while different plans have been suggested to overcome this condition, but so far nothing has been done. Some have shown a disposition to separate the almshouse from the hospital proper, but this idea has not prevailed. Mayor Warwick has taken the matter in hand for the time being and suggests that to prevent the overcrowding, that it would be best to have all the poor districts consolidated and place them under the care of the Department of Charities and Correction. This is thought best from the fact that at the present some of the suburban districts have few inmates and therefore some of the patients at the Philadelphia Hospital could be removed to those places.

There are at present 1,050 insane patients being cared for there, and since all the State institutions are taxed to their utmost. the final disposition of these poor unfortunates must be solved by the distant future.

Great Increase in Mortality of Philadelphia.—For the week just passed there has been a great increase in the mortality statistics of this city, which may be directly traceable to the extreme hot weather which has prevailed for some time. The most notable effects are seen in the increased numbers of intestinal disorders of children, especially cholera infantum, which is about as fatal as in the past. The process of education in the case of illiterate mothers who still administer all kinds of food and sour milk, is about the same as formerly, and an increased number of deaths from cholera infantum goes on *pari passu*. When intense heat prevails rapid fermentation ensues, with the production of poisonous ptomaines, which when absorbed give rise to fever, convulsions and bowel disorders, and until the people are educated to the point where proper precautions are taken, the mortality in cities especially will be high. That city which will hereafter exercise the greatest precaution along this line will doubtless be repaid in the way of a low mortality report.

Ptomaines in Ham Poison Nine People in Philadelphia.—Since the advent of hot weather during the past few weeks, an occasional case of ptomaine poisoning has been reported. During the past week, however, that cause is held responsible for the serious illness of at least nine persons.

It seems that John Flanagan, Edward Flanagan, Mrs. Taylor and her two children, residing at 2751 Germantown avenue, after eating boneless ham a few days ago, became ill within the course of a few hours and suffered with violent pains in the abdominal region and with nausea and vomiting. Prompt medical attention was received and the patients recovered. The following day another family living in the neighborhood bought ham at the same grocer's, and after two members had eaten of it they were shortly afterward seized with pains in the abdomen and accompanied by nausea and vomiting. The mother attributed the bad effects to the excessive heat which prevailed at that time. The following morning, after three of the children had partaken of the food, they all were similarly affected and the nature of the trouble became suspected. By prompt medical aid these cases all recovered, but in one patient for a time the condition remained quite critical.

E. A. W.

DR. PORTER'S ADDRESS.

Eugene H. Porter, A.M., M.D., President of the Homeopathic Medical Society of the State of New York, delivered a presidential address on Feb. 9, which has been printed and distributed by order of the society. This official indorsement makes the paper a legitimate subject of criticism.

One can understand how such an address might have been delivered at a banquet, perhaps, after the speaker had been fired with enthusiasm, etc., but to put it in cold type and circulate it thus deliberately passes comprehension. It is scarcely worth while to point out the absurdities of the doctor's rhetoric; those who read the paper will find much to smile at. The average physician, even when he carries the *A.M.* as well as the *M.D.*, is not expected to indite classical essays, but it certainly is within the scope of reasonable expectation that he should state the truth with plainness, and though the author terms those who criticize him "gelatinous masses of malice and ignorance," we make bold to find just a little fault.

The doctor says: "But if our teaching has hardened into dogmatism, our precepts into formulas, and our systems into routine, then is our tradition a yoke not of freedom, but of bondage," etc., etc. The meaning is a little obscure, but we incline to the opinion that the yoke is already one of bondage rather than of freedom. No one can read the journal of which our essayist is the editor without finding ample justification for the belief that the dogmatism, the formulas and the routine are established facts. Assuming that the "traditions" referred to are the homeopathic doctrines of the minimum dose of the single remedy of the proven drug, administered in accordance with the law as formulated by Hahnemann, there is ample evidence that the majority of the profession have abnegated those principles. Their treatment and their writings give the lie to the assertion that they are believers in the law of similia, and their practice is in accordance therewith. Whether they have nailed their principles to the

mast, as is later on advised, or crucified them in some other way, I leave the doctor to determine and to explain in glowing if somewhat mixed metaphor.

Again, the doctor says: "We have fallen somewhat below our high standards, for in our day we are restless, driven by a discontent not always divine, dragged down by laxity, selfishness and the enormous increase of the profession. And besides all this there remains the monumental words of the first and greatest physician of western civilization, 'Life is short, and art long, occasion fleeting, experiment fallacious and judgment difficult." I have no fear of the result. Conviction is becoming clearer, purpose more resolute, and the mission of the school will be triumphantly fulfilled."

Again the doctor has been obscure, but whatever he is trying to say, it does seem that his premises as expressed scarcely justify the conclusion that follows.

It is a pleasure to be able to unstintedly praise any part of this work. The paragraph on Education deserves such praise. The essayist has diagnosed the situation perfectly, and the delicate sarcasm contained in the reference to the "self-sacrificing labors of the various faculties" of the 154 medical colleges in this country is a home thrust. When the vast majority of these schools are abolished, and when medical students are given an opportunity to cross the gulf between *knowing* and *doing* before they are turned loose upon the community, then will the medical millennium have come. The paragraph on Medical Expert Testimony shows the doctor an enthusiastic advocate of a proposed bill. Matters of this sort are of slow growth, and reforms are only accomplished by persistent trial. There seems to be some question as to the constitutionality of the proposed law. The abuse of medical charity is recognized as an appalling evil, which should be curtailed as speedily as possible, and the doctor, with a charming *naiveté* suggests as a remedy that allopathic dispensaries should be abolished and homeopathic ones increased in number. This is a subject of too great importance to be treated so superficially. All State aid should be taken away from all hospitals and dispensaries except such as are under the entire charge of the State's paid employees, who should devote themselves exclusively to such service. With such hospitals and dispensaries so conducted, the doctor could readily realize his dream of teaching medical students to do as well as to know. There is a persistent use of the term *Allopathic* and *Allopathic Society*. "The distinguished president of the New York Co. Allopathic Medical So.," says Dr. Porter. The doctor knows full well there is no such society, but because he insists on calling himself a homeopath, he seems to feel justified in terming physicians who expressly declare their aversion to a sectarian title by name of allopathic. This seems a trifle childish in one occupying such an exalted position. The doctor praises the man who at times is willing to subordinate his opinion to the general good, and who even is willing to encourage enterprise that his own sense of expediency opposes, etc., etc.

"But to those who, preaching a specious tolerance, a deceptive non-sectarianism, who progressing from conciliation to concession, from concession to abnegation, would sell their honor for the flesh pots of Allopathy—to these weak-kneed brethren, these rags and tatters, these remnants of virility, these men of blubber, I would say that the age of credulity has given place to the age of reason, and that the *principles of the school* and the name upon its banner *must be nailed to the mast* not to be removed until the surrender of the enemy.

This is very severe indeed, or at least it is doubtless meant to be, and perhaps the author will, if he has not already, cry out with the mad Dane: "What an ass am I to thus pack my heart of words and fall to cursing like a very drab." The doctor concludes his address as follows:

"*I define a Homeopathic physician as one who adds to his knowledge of medicine a special knowledge of Homeopathic therapeutics. All that pertains to the great field of medical learning is his by tradition, by inheritance, by right.*

"The difference between the schools to-day is as great as it ever was. There will be courtesy and fairness, but no abnegation. The true policy of the Homeopathic school is the development of its resources; the avoidance of any alliances that may in any way be derogatory to its honor or dignity; an uncompromising attitude toward Allopathy; a cultivation of that stalwart spirit and fiery energy that characterized the pioneers; the strengthening of our institutions; the proving of drugs; in short, the advance of Homeopathy is the only way in which it will ever be advanced, by the loyal and faithful work of homeopathists for homeopathy. 'So we will labor that what came to us as seed, shall go to the next generation as blossom, and that which came to us as blossom may go to them as fruit.'"

It is doubtful if the standard dictionaries are called in to amend their present definition, and, indeed, the doctor's effort as a definer seems entirely superfluous.

It is a pity that the stalwart spirit and fiery energy that characterized the pioneers should in this day have so degenerated as to produce such flatulent balderdash as this.

[NOTE.—Our esteemed correspondent is a graduate of one of the Hahnemann colleges, of thirty years' experience in this State, and is an ex-president of the County Society where he lives, outside this city. His standing and experience make his statements of great weight.—EDS.]

TRANSLATIONS, GLEANINGS, Etc.

EXANTHEMATIC PURPURA AND ITS PATHOGENESIS.*

HOWEVER easy it is to recognize a purpuric eruption at first sight, it is still more confusing when one attempts to trace the disease, even after a conscientious examination, to its origin. In the case which I intend to discuss with you to-day, it will be worth our while to study the way in which the symptoms followed one another, in order to find the first cause of this morbid manifestation.

You have seen in the wards a young woman who came here six days ago, with a purpuric eruption. This disease was an acute affection, but of short duration, for to-day we may regard her as almost convalescent.

I shall detail you her history, dwelling on the most interesting features. This woman is a domestic servant of twenty-one years. You have doubtlessly noticed that she is large and vigorous, and presents all the appearance of excellent health; she informs us that she has never been seriously ill. In her past history we only find an attack of measles at the age of eight and a slight anaemia which coincided with the establishment of puberty.

Fifteen days ago, while in good health, she was suddenly seized with malaise, chills, general aching of the whole body, and pains in the limbs. These were followed a few hours after by fever and a well-marked sore throat. The fever left her within twenty-four hours, but the sore throat distressed her for it hurt her to swallow; the submaxillary region was painful, and there was notable swelling of the lymph glands. The slight aching which persisted did not prevent her from following her usual occupation. Three or four days after, her lips broke out with herpes and she spit a little blood, which probably came from a congested pharynx. By the fifth day she appeared restored to health, but the next morning the aching set in again, together with a feeling

* A clinical lecture delivered by Prof. Rendu at the Hôpital Necker, Paris, France. Translated from the "Semaine Medicale," No. 29, 1898, by Frank H. Pritchard, M.D., Monroeville, Ohio.

of great weariness and slight chilliness; the fever reappeared in the evening, and her legs felt heavy, swollen, prickling and as though ants were crawling over them.

To explain these symptoms one could not attribute them to a simple cause, as a cold or an indigestion, for on questioning her these were excluded. Besides, that same evening she had discovered that her legs were swollen and that the skin was covered with hemorrhagic blotches. Alarmed by this symptom she came to the hospital and was received. Then she had no fever; she complained of heaviness and weariness of her legs, which were painful on pressure. They were considerably swollen, oedematous. This oedema was hard, yet but little painful, and reached to the feet. The joints seemed to be unaffected and she felt no pain on moving them or having them moved. But, above all, the purpuric eruption on the skin struck us at once. This was not all the same, but it might be divided into different varieties. First, there was an erythema of the color of a hydrangea pink scattered over the insteps of her feet, the anterior portion of the legs, reaching up to the knees. This was partially to be effaced on pressure, but not completely, for it persisted, of a rose-color with a violet tint, which contrasted decidedly with the pale skin. On the other hand, there were innumerable blackish blotches, varying in size from a millet-seed to that of a lentil, which presented hemorrhagic points. There were nowhere any great ecchymosis, either superficial or subcutaneous. Finally, there were several blotches of varying colors; some were vivid red, others were pale, with a surrounding blush, still others had the appearance of a mixture of coffee and milk. These were evidently eruptions of different dates, appearing in successive crops; the last were found on her thighs.

You will have noticed that this eruption was almost wholly confined to the lower extremities. It was especially confluent on the ankles, on the calves, at the knees and on the internal sides of the legs, while the patches were fewer and more scattering on the thighs. Certain regions were nearly entirely unaffected, as the front of the ankle, the lower third of the calves, the anterior tibial region and below the knee, where the garters were worn. This distribution was the same on both lower limbs. Notice this symmetry as a whole and in detail. I shall return to this point later to make its pathogenesis clear. There were also a few very small spots like flea-bites on the lower part of the abdomen and on the fore-arms, but none on the rest of the body. The nature of these spots is easily recognizable, for they are hemorrhagic, they not disappearing under pressure by the finger. The eruption did not involve either the hair-follicles or the sebaceous glands, nor was there unusual heat of the skin, neither were there trophic disturbances as sweating or itching. There were also no enlarged glands, while sensation was intact. As to the internal organs nothing abnormal was to be detected; the heart was normal, there being no trace of an endocarditis. Nothing special in the lungs. The liver was a little larger than normal, but not painful to pressure; there was no jaundice. The patient did not complain of any digestive disturbances, while there was no sensitiveness to pressure in the epigastrium. Her menses were quite regular, appeared every three weeks. Finally, the urine was perfectly normal, there being no albumen and no change in color. You have, in short, the clinical history of this patient, which may be recapitulated briefly as follows: During the course of a slight tonsilitis with fever oedema of the lower extremities appeared, accompanied with a purpuric eruption, without affecting the general health. From the very beginning I made a favorable prognosis and contented myself with ordering a bath, the application of an aromatic vinegar, internally thirty drops of the tincture of the chloride of iron, and rest. The consequences have justified my foresight; the oedema began to disappear the following morning and the day after that the eruption commenced to become paler and more yellowish. Although she had a few new spots on her thighs, the others became paler without passing through the violet or green stages. During the three days succeeding, we observed the oedema disappear completely, the erythema assume a *cafe au lait* color and the spots become yellowish. She got up from bed, and she perhaps remained up too long, for walking about brought on seeminlgy a new outbreak of purpura around the ankles. To-day she may be considered as cured. What name should be given to this disease? There need be no hesitation in our diagnosis. This is a typical case of simple exanthematic purpura. The other varieties are easily distinguished. Hemorrhagic purpura is differentiated by the hemorrhages from various organs and mucous surfaces as epistaxis and hematuria; subcutaneous and muscular ecchymoses are observed as well as vast cutaneous ecchymotic patches, without fine punctation. A persistent fever, an enlarged spleen, visceral lesions and modifications of the blood characterize *infectious or septicaemic purpura*. The purpuric blotches are, in this variety, large and irregular, scattered over the whole surface of the body, respecting neither the face nor the trunk, and the petechiae often become bullous, ecchymatous or even gangrenous. It is associated with hemorrhages into the muscles and true joint complications. As to *scurvy*, that only develops under special ætiological conditions, and it is differentiated by its localizing itself preferably around the bulbs of hair sacs, by changes in the gums, sponginess, by the appearance of certain indurations due to deep suffusions of blood and, finally, by the intensity of the asthenic disturbances. Thus, you notice that the diagnosis is easily made, but the difficulties set in when we attempt to determine the nature and the pathogenesis of the disease. I shall recall to you how the different factors have, in the course of time, been interpreted. In former times all forms of purpura were classed in one group and the hemorrhages were explained away as due to a primary alteration of the blood, which becoming more fluid with a rupture of the blood-vessels, brought about the eruption. In 1852 Cruveilhier described a hemorrhagic capillary

phlebitis, and following him Despres set forth a pathogenic theory, wherein the alterations in the blood brought about secondarily a change in the walls of the capillaries. Hayem, Labadie-Lagrave called attention to the occurrence of purpuric eruptions during the course of severe septicæmic affections and explained them as dependent on a proliferating endarteritis. But these pathogenic theories, where the chief role is attributed to changes in the vessel-walls, can not be made to fit all purpuras. Thus in simple purpura there is no vascular lesion, as I have shown in my investigations in 1873. I then admitted a fluxion under the dependence of a nervous influence. This theory was soon confirmed by the histological researches of Cornil.

The clinical manifestations which preceded the purpuric eruption, as the formication, the prickling, the cutaneous hyperaesthesia and the oedema, are nothing more than nervous disturbances. You will recollect the persistence with which I insisted upon the aspect and disposition of the eruption upon the two lower extremities. This symmetry, indeed, is a fact of prime importance in favor of the nervous origin of the exanthem. We know that Faisans has particularly upheld the myclopathic origin of certain varieties of purpura. Besides it is to-day beyond doubt that the nervous system plays a capital part in the sudden production and the symmetrical disposition of the oedema and the purpuric outbreaks. But if the mechanism of these phenomena seems to have received a satisfactory interpretation, the cause of the disease itself still remains to be determined. Where should we class exanthematic purpura? Researches have been made to establish an affinity between rheumatism and exanthematic purpura, to show that the latter is a simple manifestation of rheumatism, to which Alibert gave, in 1832, the name of peloisis rheumatica. These ideas were also held by Bazin.

The principal argument was the coexistence of pains in the articulations with the purpuric eruption, together with others of lesser value, as the similarity of the two diseases in certain symptoms, as the febrile beginning, the oedema, the endocarditis, the alternation of the exanthem with true articular symptoms; the association of purpura with eruptions of rheumatic origin, as the nodose or papulare erythemata, and the coexistence of arthritic antecedents in the affected subjects. In the course of time Besnier and Ferrand demonstrated that the joint involvement was rather an arthralgia and not a true arthritis; that the pains were similar to the aching pains of infectious diseases, and that there could be no question of a true rheumatism, but of a sort of infectious pseudo-rheumatism. Thence an infectious cause was supposed to be at the bottom of exanthematic purpura. In our case to-day there is no previous history of rheumatism, yet it is not difficult to trace the affection to its origin. That tonsilitis, beginning with a chill and followed by fever, was it not the first localization of the infection, which six to eight hours later gave rise to the purpuric infection? The majority of the cases reported record some such manner of infection: a pleurisy, a gonorrhoea, an attack of ecthyma, a furuncle and the most frequently, an attack of tonsilitis.

But why do these infections, depending upon various microbes, bring about the same manifestation—exanthematic purpura? Is the eruption due to a special microbe which produces a secondary infection? According to several writers one may explain the purpura by emboli caused by microbes in the cutaneous vessels. Ever since 1884 there has been a search for the microbe of purpura, but I must say that the bacteriological results have been far from favorable to demonstrate its existence. Without dwelling too long on the bacteria and the micrococci which have been discovered in the blood of those with purpura by the first observers, whose technique was more or less faulty, I recall to you those of Strauss, Widal, Le Cendre and Claisse, who have isolated the most different bacteria: streptococci, staphylococci, coli bacilli, and pneumococci. You are doubtless cognizant of the fact that these germs are to be found normally upon the skin, and it is often not an easy matter to draw a little blood without avoiding these sources of error. But regarding as exact all these results, the variety of the different germs isolated points to the fact that there is no specific agent in this affection. Besides, the presence of microbes in the blood is far from constant in all cases of purpura. It has not been noticed except in the grave forms, and the results in the benign cases has always been negative. M. Apert has attempted to make cultures in twelve cases, without success. Therefore, I am almost certain that a bacteriological examination of the blood of this case would be without result. On the other hand, it is not necessary that the microbes themselves pass into the general circulation for their toxines suffice. At present this view seems to be the most rational one. The symptoms of purpura remain identical whatever be the cause, be it a tonsilitis, a pleurisy, a furuncle, an erysipelas, tuberculosis, or the grippe. A purpuric eruption may follow the ingestion of mineral poisons, as the iodide of potash or arsenic, and even the organic poisons, as those of serpents or the antidiphtheric serum—antitoxin. Here the symptoms are absolutely the same: fever and rheumatoid pains. The exanthem does not immediately follow the absorption of the poison, it appearing towards the eighth to the tenth day. Charrin has even been able to produce purpura experimentally by the injection of toxines. If we apply these pathogenic ideas to the case under treatment we may reconstruct its genesis as follows: In this patient a slight infection has taken place in the pharynx, which has given rise to an angina. She received no treatment and continued to work. Toxines were elaborated in the tonsil, and the depressed state in which she was favored their absorption, and a consequent auto-intoxication. At all events they penetrated into the circulation where they, without doubt, altered the composition of the blood, rendering it more fluid; but they certainly acted on the nervous system, where the modifications caused symmetric areas of dilatation of the blood-vessels, as well as the functional disturbances which we have observed. I already

see that you object to this interpretation of the facts. Why, you ask me, are the greater number of cases of tonsilitis unassociated with purpura, even when they are still more severe than that of our patient? Why, on the contrary, are cases of true myelitis rarely accompanied by purpura? You have noticed at present three patients under treatment in the wards with affections of the cord which presents no signs of purpura. It must be confessed that the association of purpura with common infections depends upon special conditions, which are now but imperfectly understood. It has been said that certain states of the blood, certain visceral lesions predisposed to purpuric exanthems. Hayem and Bensaud in studying the blood in certain severe and tenacious forms of purpura have shown that it does not retract on starting, and that the serum does not separate from the clot. Under the microscope a diminution of the red-blood corpuscles is noted; but it is but little probable that such alterations are present in the blood of our patient. M. Apert has found the coagulation of the blood normal in those cases of exanthematic purpura which he has studied. As to the visceral lesions, their influence is more or less hypothetical. Changes of the liver and kidneys have been especially looked for. In the normal state the liver retains the poisons and prevent their diffusion through the body; on their part the kidney eliminate them. Partial or complete abolition of the function of these organs might favor intoxication of the organism and, among others, those that give rise to purpura. But in our case no symptom leads us to suppose such an alteration; there is no icterus, no pains in the liver, no hypertrophy of that organ, and no digestive troubles. The urine contains no albumen, and renal permeability seems sufficient, as the test with methyl-blue assures us. In reality, in our case it is impossible to explain why the tonsilitis has given rise to a purpura. Our only resource is to lay it to an idosyncrasy, as we are obliged to do in those cases where antitoxin acts in a similar manner, and where it is not to be ascribed to the weakness of the patient, the composition of the serum nor the severity of the general condition.

I shall close this lecture by asserting that simple purpura is usually a very benign disease, which requires but eight to fifteen days to cure. It is well to know that successive crops of the eruption may appear, to prolong the disease somewhat. These may follow a common cause, as an attack of indigestion, walking about, an emotion, fatigue or the action of cold. The treatment may be summed up in a few words: recommend rest, order lotions of aromatic vinegar, baths and administer internally, a small quantity of the chloride of iron. Reserve the injections of artificial serum for the severe septicaemic cases.

It is stated that telephones are to be placed in the wards of one of the Paris hospitals, within reach of the bedridden patients, so as to enable them to communicate with their friends outside. There will also be an arrangement whereby the telephones may be switched on to a wire connected with the concert hall, so that the concert may be enjoyed by the invalids.

RETROSPECTIVE THERAPEUTICS

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

Carbolic Acid in Typhoid Fever.—Dr. Gerald Williams, of Vernon, British Columbia, reports the following interesting case in the *Lancet:* Last autumn I attended a case of typhoid fever—a typical case with rash, hemorrhage and diarrhea. The patient recovered in twenty-seven days. Ten days after the temperature had been normal both morning and evening he relapsed. His temperature at the end of the first week was 106 degrees F. In the evening for two days. He had two hemorrhages and distressing diarrhea. On the fourteenth day of the relapse I saw him at nine p. m., and as the diarrhea was excessive I prescribed for him accordingly. The temperature was then 104.5 degrees; the pulse was 90. At midnight his brother, who was nursing him, came for me in a great hurry. He told me that he had given him two tablespoonfuls of pure carbolic acid in mistake for the diarrhea mixture. I repaired as quickly as possible to his house. Fifteen minutes must have elapsed from the time of taking the poison to my arrival. When I arrived the patient was very much frightened, his mouth was terribly burnt, his lips were perfectly white, and he complained of great pain in the stomach. I made him drink a quart of saccharate of lime and administered one-tenth of a grain of apomorphine hypodermically. He vomited in about one minute. I then gave him salad oil and sulphate of soda. He vomited several times more, the vomited matter on the last occasion being almost free from the smell of carbolic acid. He then fell back in bed, completely collapsed. I injected brandy and ether hypodermically. He quickly recovered; in two hours from the time I arrived I left him. I saw him at eight next morning, and was very much surprised to find him looking and feeling very much better than before he took the acid. He only complained of his throat and slight pain in his stomach. His temperature was normal. The pulse was 96. He never had any return of fever, and in a week was out of bed. When his mouth healed he had nothing to complain of at all. To my mind this is a clear case of cure by carbolic acid, but I should not care to try quite such a big dose.

Arrest of Hemorrhage in Hemophilia by the Application of Healthy Blood.—Dr. Bienwald has employed this very original method in the case of a child, aged two years, the subject of hemophilia (*Lancet*). Having failed to arrest the hemorrhage from a small wound on the face by the application of perchloride of iron, he obtained some blood from a healthy subject and deposited it on the wound. In a few minutes it coagulated and the hemorrhage at once ceased. His explanation of the action of the remedy is that it supplies the ferment necessary for thrombosis in the small vessels. As affording his explanation some support we may mention the success obtained by Dr. A. E. Wright in his experiments with a solution of fibrin ferment and chloride of calcium as a styptic. Dr. Bienwald's ingenious method certainly deserves a trial.

A Novel Method of Reduction of Hernia.—The powdered root of veratrum viride is said (C. Flexon, *Mercks Report, Penn. Med. Jour.*) to be used by the Dree Indians of British America, as an aid in the reduction of hernia. The patient is made to lie on his back, naked; a pinch of the powder is drawn into his nostrils. Violent sneezing is the result. This, together with pressure over the tumor by another person, often produces a speedy reduction of the hernia.

Treatment of Wounds by Steam.—Beyer (*Deutsch Med. Wochenschr.*, Feb. 4, 1898,) observing the satisfactory results which follow the use of steam as a disinfectant for surgical dressings, has applied it to granulating wounds, abscesses, etc., to facilitate cicatrization, directing upon them at a distance of 50 cm. (20 inches,) a jet of steam at a temperature of 53 degrees C. (127 degrees F.). The results were most favorable, and ulcerations which were resistant to treatment rapidly healed under the influence of the steam.

At Oran, Algeria, the health officer of the port, named Tremouillet, who is still in active service, is said to be 126 years of age. He was born in 1771, was captured by Oran pirates in 1789, and has never left the town since.

RETROSPECTIVE DIETETICS.

The Whole Meal Bread Question in Italy.—The recent popular disturbances in Italy, caused by the scarcity of flour and the high price of bread, lends special interest (says a correspondent of the *Therapeutic Gazette*) to a fierce encounter which is now being waged between Professor Celli, of the Instituto Igienico of Rome, and the Belgian Integral Bread Company. This firm, offering whole meal bread at a much lower price than the bakers, is doing good business, and intends to widen its operations, although established but a few weeks. From the first day of the opening of the bakery Professor Celli had condemned the bread on *a priori* reasons, stating that the antispire principle (which consists in disintegrating the cortex of the grain by a series of spiral knives interlocked) could never render the husk digestible, and that the bread was unwholesome. A violent polemic between the company and the professor was the result, in which the old controversies of whole meal or integral bread were all rehearsed. As a final note Celli published in the *Nuova Antologia* (the Italian *Nineteenth Century Review*) a vigorous condemnation of the bread, which he described in the words of Vallin, of Paris, as good for dogs only, or vicariously for the constipated. Celli, who is undoubtedly a very earnest sanitarian, and as a deputy in the House is known to have socialistic leanings, explained to me in animated words the reasons for his action. Integral or whole meal bread, he says, is by secular tradition, universal experience and in the light of modern research, wholly condemned, because, agreeing with Wiche, Manicanti and Prausswitz, the husk of the grain is absolutely indigestible, as is the substance on the inner surface of the husk. The addition of these extraneous matters to the bread can be of no advantage, and, acting as intestinal irritants, must prove harmful to the Italians, eaters of bread and fruit, among whom constipation is unknown and who would unquestionably lose much of the value of the food owing to its shorter stay in the intestinal tract. Celli is persuaded that white bread is superior as a food to all other farinaceous comestibles, and with the addition to the paste of common salt and an acid phosphate (easily made by the baker) an ideal food is obtained. He further recommends as perfection bread made from a mixture of 73 per cent. wheaten flour, 23 per cent. flour from Indian corn and about 4 per cent. of flour made from beans. Celli's bread is palatable enough and highly nutritious, but has never been accepted by the proletariat for undefined reasons, possibly from the waywardness of nature that often dislocates the useful from the agreeable.

Milk Treated by Indigo-Carmin.—Dr. Vaudin *Bull. de l'Acad. de Med.* Nov. 30, 1897; *A. M. S. Bull.*) found that if a few drops of a solution of indigo-carmine are added to milk, the color produced by it disappears under the action of the microbes in the milk. He determines the age of the milk by the duration of the tint; thus in fresh milk it lasts about twelve hours at 15 degrees C., five hours at 15 to 20 degrees C., and four hours at 20 degrees C. When there are several decigrams of lactic acid to the quart of milk, the tint vanishes almost instantaneously.

Beer Yeast in Diabetes.—The diet can be varied in diabetes if two or three tablespoonfuls of beer yeast are taken during the day at meals, disguised in beer or white wine (*Gaz. Med de Lsebe.*). It promotes assimilation and destroys the sugar derived from the food, while preventing the accidents that follow an exclusive meat diet. It is especially useful in cases in which the sugar is chiefly derived from the food, but is beneficial in all. It should be discontinued for a few days from time to time, or less taken every three or four days.

The Use of the Farinacea in the Diet of Later Infancy—Dr. Samuel McC. Hamill, in a paper read before the Philadelphia Pediatric Society, maintained that although the excessive use of the farinacea during early infancy was generally recognized as injurious, it was not sufficiently understood that caution should be exercised in administering these articles after the twelfth month.

It is a common experience to see infants who have thriven during the first year suffer continually from indigestion after that age.

This is due to the tendency of the mother and physician to put the child too early upon solid food. Bread, potatoes, strong porridges and undiluted milk are given, causing frequent digestive disturbances, and, if the practice is persisted in, chronic gastric and intestinal indigestion. The most common cause, however, is the excessive use of the farinacea, or their assimilation in forms not readily assimilated. Under the mistaken idea that these substances are light and nutritious, they are given as the staple of diet to the exclusion of milk and the more nitrogenous foods.

The sanction of high authority is given to this practice, as will be seen by consulting most writers on infant hygiene, who recommend after the first year potatoes, bread, strong porridge, rice pudding and undiluted milk.

It should be remember that the power of chewing is not fully developed in most children until well after the second year. The folly of giving bread is thus apparent, while in potatoes the starch granules are difficult of solution. Oatmeal porridge in excess, too, is liable to undergo fermentative changes in the intestinal canal. The result of a diet largely composed of these farinacea is often an intestinal catarrh, induced by the constant irritation of the mucous membrane from the fermentation which the carbohydrates are apt to undergo when imperfectly digested.

The diet in the vast majority of instances best suited to the child during the second year is a nitrogenous one, with a minimum of carbohydrates. Milk should be the staple, and this fluid should not be given undiluted until the eighteenth, twentieth or twenty-fourth month. The milk should be diluted with gruels or jelly, made by boiling crushed wheat, barley or oatmeal for many hours. To this may be added rare or raw scraped meat, as advised by Holt, after the eighteenth month, and at the twelfth and fifteenth month fruit juices, as orange juice or baked apple. Potatoes and bread are best omitted until the completion of the second year. The porridges may be given at the twentieth month, the preparations of wheat and barley being selected in preference to the more starchy varieties. Difficulty in digesting the farinaceous foods may be met by the addition of a dry extract of malt, or diastasic essence or extract of pancreas to the gruels or porridges or the mixture of milk and gruel a few minutes before eating. This will often liquefy the food before the meal is finished.

Fatty Milk in Typhoid Fever.—Dr. Louis Fischer, writing on the Dietetic and Medicinal Treatment of Typhoid Fever in Children (*Times and Register*, June 11, 1898) quotes with approval the following passage from a letter by Dr. George McCracken, of Philadelphia: "What I particularly desire to impress is the use of the fat milk exactly as it comes from the separator in both adults and children, when suffering from gastric and gastro-intestinal disorders and in typhoid fever."

"I used it," adds Dr. Fischer, "exclusively in typhoid fever for the following reasons:

"First—That it quenches the thirst.

"Second—It is easy to digest.

"Third.—It does not produce as much tympanites.

"Fourth—That it is relished by the patient, not having the milky taste of whole milk, and containing more food value than diluted milk.

"The experience attained by me, I believe, justified the use of this new form of diet in typhoid fever, and I am persuaded that if we can sustain life by a palatable and easily assimilated food, and do not rush haphazard into using stimulants, we can attain the normal standard of health in a scientific manner.

"I invariably insist on giving sterilized water, to which the albumen of a raw egg is added. I have also given light broths of beef, veal or mutton. It is absolutely necessary that these broths be given only when freshly prepared.

"The prognosis of our cases of typhoid fever does not, in my opinion, depend on the amount of drugs that we can put into a disordered alimentary canal, but rather of eliminating the calomel, and in addition giving the above diet.

"The vital difference between cow's milk and Gaertner's humanized milk consists in the reduction of the excess of casein to one-half the quantity previously contained in cow's milk. The normal percentage of fat is, however, retained, and to this I can attribute, as have also other writers on this subject, its easy assimilation and its high nutritive value."

Ether drinking is reported to be so prevalent among the men, women, and even the children in East Prussia that the roads and market-places are scented with the fumes of the drug.

MISCELLANY.

—The recent joint meeting of all medical schools of Topeka was a success, and will be repeated.

—Death within twenty-four hours may be expected when the respiration and heart beats approximate.

—Every physician should keep on hand sulphate of soda to administer in carbolic acid poisoning. It is a prompt and safe antidote.

—It is stated by a writer of authority that the insipidity of boiled water may be removed by passing it when cold through a filter, by which it is aerated.

—A tumor which having existed for a long time suddenly begins to grow, should be regarded with the gravest suspicion. It is probably malignant.

—It is reported that Dr. Samuel Pozzi, of Paris, operated on Feb. 16 upon Sarah Bernhardt, the great actress, for the removal of an intra-ligamentous cyst.

—M. Felix Faure, president of the French republic, has consented to preside at the first session of the International Medical Congress, to be held in Paris is 1900.

—The law holds that about seven years after the disappearance of an insured individual the presumption is that he is dead, and the insurance is therefore due and payable.

—MORTALITY IN WAR.—During the Civil war the death rate for a three years' term was from battle, 47 per 1,000; from disease, 97 per 1,000; from other causes, 11 per 1,000.

—Dr. I. N. Love, on being requested to itemize a bill of $625 for medical services, did so as follows: For knowing how to save your two children, $600; for doing so, $25.

—The Supreme Court of the State of Vermont has recently decided, in action of indictment for adultery, that a maiden is a young unmarried female, but not necessarily a virgin.

—In difficult diagnosis between measles and scarlet fever Dr. Donkin points to the fact that the region of the nose is almost always occupied by eruption in measles and lips peel in scarlet fever.

—Dr. T. W. Cleveland, against whom a charge for manslaughter was recently brought for causing the death of an infant, has been discharged from custody on the ground that there was no evidence to warrant a trial.

—The Roentgen rays are found to be of great value in the army and navy in the war with Spain. The bullets can be located with such accuracy as to be easily removed. The portable apparatus weighs about 70 pounds.

—Ohio proposes to compel candidates for matrimony to undergo a suitable medical examination as to their physical and mental condition. Those guilty of insanity, consumption or dipsomania are especially barred out.

—French professors say that the best salt of quinine for medical use is the glycerophosphate. It is preferred because of its greater solubility and the special properties of phospho-glyceric acid. There are two salts—basic and neutral.

—It has been found by experiment that where it is of importance to make plaster-of-paris set rapidly it should be mixed with a 5-per cent. solution of common salt, and this may be made roughly by adding a tablespoonful of salt to a pint of water.

—Of all the countries in the world it is Servia which contains the most centenarians. Among its less than 1,300,000 inhabitants, there are actually 575 persons whose age exceeds 100 years. In little Switzerland there is not a single person whose years number five score.

—If you are about to examine a septic case or one where you suspect syphilis, wash your hands in vinegar or dilute acetic acid, and you will soon discover by the smarting any little scratches or abrasions in your skin which might become the starting points of infection.

—The Sage of Bordeaux (*Sem. Med.*, Feb. 9), reports the first case in France of the birth of a healthy child at term, the mother having commenced to menstruate at twelve years and eight months, and conception occurring one month later, delivery at thirteen and a half.

—Icthyol, 10 parts, oil of sweet almonds, 60 parts, lanoline, 20 parts is strongly recommended as an application in smallpox. Applied three times a day from the outbreak of the rash to the period of incrustation it relieves the itching and in a great measure prevent suppuration.

—At the commencement of Bryn-Mawr Female College three important subjects formed the text of very able addresses by the young lady graduates: "The Maturation and Fertilization of the Egg of Lamax," "The Economic Condition of Ramsay Manors" and a "Study of Conjectural Temporal Clauses by Thucydides."

—Professor Marsh, of Yale University, after an extensive series of comparisons between the brains of ancient and modern animals and their relation to the human brain, has reached the conclusion that the Japanese are destined to come forward among the people of the earth as a great power, and perhaps an overwhelming force.

—Ptyalism of pregnancy is quickly cured, according to Dr. Webster (*Am. Med. Jour.*), with galvanism, the negative pole applied to the tongue and the positive pole held in the hand of the patient or applied, labile, over the salivary glands on each side. The treatment should be given twice a week, and about 10 milliamperes used for three minutes.

—Dr. Nicholas Senn has recently presented to the Newberry Library, Chicago, the library of the late Prof. Du Bois Reymond, consisting of 4,000 volumes and 13,000 pamphlets, mostly on the subject of physiology. At present the medical department of the library consists of over 30,000 volumes and 22,000 pamphlets, and over 400 periodicals embracing all departments of medical science.

—The somewhat startling announcement is made that at the next meeting of the International Medical Congress, to be held in Paris, Dr. Mandon will present, on behalf of the Emperor Menelek, of Abyssinia, a communication by that monarch on "Smallpox and Preventative Vaccination as it Has Been Practiced in Abyssinia for Two Centuries."

—A Michigan paper tells about two little tots who were kneeling at their mother's knee saying the Lord's Prayer. The oldest one was repeating it after his mother, and when he reached the passage that reads, "Give us this day our daily bread," what was the mother's astonishment when his brother exclaimed, "Hit him for a pie, Johnny; hit him for a pie!"

—According to Dr. Ussery, of St. Louis, the banana is an excellent food in typhoid fever. This he explains by stating that the banana, although a solid food containing 95 per cent. of nutritive properties, is almost completely absorbed in the stomach, and does not possess sufficient waste to irritate the intensely inflamed and engorged lining membrane of the small intestine.

—A physician wrote to a manufacturer of antitoxin, inquiring whether the syringe or the antitoxin was to be boiled before using. It need hardly be said that boiling destroys the albuminous material, and yet the manufacturer writes to the Phila. *Med. Journal* that he has on hand something like thirteen dollars' worth of boiled antitoxin returned by physicians who gained wisdom by expensive experience.

—A doctor in England had occasion lately (says the *Lancet*) to order for his patient an enema with an ounce of turpentine in it. He was assured by a female good samaritan who was in the house that she knew quite well how to administer an enema, and as the apparatus was produced the medical man left without any misgivings. "Well," he said, on his next visit, "did you have the enema?" "Yes," said the patient, "but it *was* a business and it did taste nasty." The enema had been given with the apparatus, but by the way of the patient's throat.

—Algerian conjurers, it is known, are in the habit of applying hot metals to their bodies without suffering, and so can anybody if the metal is sufficiently hot. Apropos of this, an amusing story is told by Lord Playfair, of how, when the Prince of Wales was studying under him in Edinburgh, he had, after taking the precaution to make him wash his hands with ammonia, to get rid of any grease that might be on them, said: "Now, sir, if you have faith in science, you will plunge your right hand into that cauldron of boiling lead, and ladle it out into the cold water which is standing by." "Are you serious," asked the pupil. "Perfectly," was the reply. "If you tell me to do it, I will," said the Prince. "I do tell you," rejoined Playfair, and the Prince immediately ladled out the burning liquid with perfect impunity.

ORIGINAL ARTICLES.

THE ANCIENT AND MODERN INSTRUMENTS USED IN DIAGNOSIS AND TREATMENT OF DISEASES OF THE OESOPHAGUS AND STOMACH.

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THE stomach and oesophagus remained a *terra incognita* with reference to the diseases they are subject to as long as these organs remained inaccessible to direct examination and the application of local remedial measures. The invention of an instrument that possesses both diagnostic and therapeutic virtues has thrown a great deal of light into these obscure regions of the human anatomy. The instrument which now supplies the want felt for centuries is the stomach tube.

This insignificant looking piece of rubber tubing, which we all know so well, and which has found a place in the armamentarium of every modern physician, was not born in a day. Like every other instrument the stomach tube has a history.

The History of the Stomach Tube.—The origin of the stomach tube is shrouded in mystery. Who was the first to dare insert an instrument into the oesophagus and down into the stomach for some definite purpose we do not know. Was it necessity or curiosity, was it the juggler or the magician who first practiced this art is equally unknown; it is reasonable to suppose that it was necessity, the mother of invention. We find in Æsop's fables a story wherein the crane is supposed to have used his long beak for the purpose of extracting a bone which stuck in the throat of the fox. Under similar circumstances man may have used his fingers, or have improvised an instrument to extract a foreign body from his own or his fellow's throat. While performing this primitive operation he may have noticed at the same time that irritating the oesophagus produced vomiting.

The first mention of a contrivance which may be considered as the forerunner of the stomach tube is to be found in the "Scholia" of Aristophanes (1). The highly cultured Greeks used, in cases of poisoning, to introduce a feather into the oesophagus and thus produce vomiting. The Alexandrian Meander tells us that the physicians of that period used to produce emesis either by hand, feather, or wooden stick.

The Romans went a step further. Their ideal was to eat well and to have plenty of it. It seems that they had only one meal a day—from morning till bedtime. In order to escape the evil consequences of an overloaded stomach the last course of every menu was a *vomitivium*. The emetic, however, proved at times a troublesome luxury. The dose was too small, and an annoying nausea was the result, or the dose was too large, and vomiting had no end. They had to give up the *vomitivium* in disgust, and the noble Romans resorted to their noble fingers as a sure cure for the oncoming dyspepsia. Running the finger down the throat was in most cases sufficient. Some Roman genius invented the *pinna* (2), made of a bundle of goose-quills, which was besmeared with iris or cypris oil. The throat was irritated with the *pinna* until vomiting ensued. Claudius, history tells us, used to have his throat tickled with the *pinna* by his physician after each meal. He was thus tickled to death by the order of his wife Agrippina; instead of the iris oil the *pinna* was dipped in poison.

In the "Collecta Medicinalia" of Oribasius (3), a celebrated historian of ancient medicine in the fourth century, we find an exhaustive description of the various methods used to produce vomiting. For instance, the candidate for emesis was laid upon a kind of a hammock, which was swung and shaken until an artificial sea-sickness was brought on. The finger comes next in order, the *pinna* is also mentioned, and a new instrument, *digital vomitorium*, is introduced. This consisted of a leather glove-finger, about 10 to 12 inches long, the lower two-thirds of which were stuffed with woollen fiber, while the upper third was empty to receive the directing finger of the physician. Before using, the *digital vomitorium* was lubricated with the oils referred to before.

The last named instrument can truly be considered as the primitive stomach tube or stomach-sound, judging by its length and mode of introduction. For, in fact, the tube is based on the same principle as the surgeon's sound—a contrivance to substitute for, or lengthen, the finger of the operator where the region to be explored is inaccessible.

With the fall of the Roman Empire gourmandy was at an end, and all the methods used to produce emesis were little by little forgotten. The noble Romans were glad enough to take food and have it stay on the stomach. The various emetics were used only by medical men in cases of *indicatio morbi* or *indicatio vitalis*.

Avicenna (4) in the eleventh century mentions an instrument, "*gomor*," made of silk and used in cases of poisoning: "Et gomorem in os ejus mittat et ipsum cum instrumento vomere faciat." Mercurialis (5), who flourished in the sixteenth century, mentions in his book on poisoning among other things the *lorum vomitorium*, an instrument known from antiquity, and vaguely described by Scribonius Largus (6) as far back as the first century. It is supposed by Leube to have been a leather strap treated with nauseating substances which produced emesis by its nauseating taste when introduced into the oesophagus.

All the above described contrivances—the pinna, digital vomitorium, gomor, and lorum vomitorium—had one object in view, viz., to facilitate the evacuation of the stomach contents. Another step towards the perfection of the sound was effected when surgeons attempted to apply it to the extraction of foreign bodies from the oesophagus. Both the material and form of the instrument underwent some modification. It was constructed of metal, and the tubular form was for the first time introduced. Arculanus (7) in 1557 used a short tube made of lead, with numer-

ous holes to catch the foreign body when introduced into the oesophagus. Ryff (8) (1559) and Scultetus (9) (1679) used a silver tube. Hidanus (10) was known as an expert in removing foreign bodies from the oesophagus by means of a bent silver tube to the end of which was attached a piece of sponge the size of a hazel nut.

Hieronymus Fabricius ab Aquapendente (11) (1716) made further advance in the development of the sound. In cases where the foreign body could not be extracted from above, he advocated the procedure of pushing the same further on into the stomach by means of a bougie. He used for this purpose a long wax candle, the size of the little finger, which he bent somewhat and introduced into the oesophagus.

At the threshold of the new era, the end of the seventeenth century and the beginning of the eighteenth, we find the stomach tube performing a new office, that of direct treatment of the mucous membrane of the stomach. There is nothing new under the sun. This procedure, which has gained universal citizenship only during the last few decades, was known to and practiced by the aboriginal tribes of America. Dapper (12) in 1673, in his ethnographical studies of the South American inhabitants, gives the following account of the treatment of the stomach as practiced by the Tapugas, a Brazilian tribe: "They have a wonderful way of cleansing their belly from the inside. They stick a rope of pladded sharp leaves wind their throats until it reaches the stomach, and there they turn and twist it so long until they vomit and spit blood. Hereafter they draw the rope and the belly is cleansed."

About the same time that Dapper published his description of the Tapugas, an instrument became known in Europe which served the same purpose. Judging by the number of monographs (13) written about it, the instrument must have created quite a sensation. The instrument was known under various names: stomach-cleaner, stomach-scratcher, and stomach-brush, "magenraumer, magenkratzer, magenburste."

According to Socrates (1713), (14) ab Aquapendente had improvised a stomach sound for the purpose of cleaning the stomach, and some kind of a stomach cleaner was known and secretly practiced by the fraters of the Italian monasteries. Rumaseus (15) in 1659 published a pamphlet entitled "Organum Salutis, or an Instrument to Cleanse the Stomach." It was patented by the inventor, and was sold extensively in London. His stomach brush was made of a smooth, flexible whalebone from two to three feet long, the lower end of which had a knob-like projection to which a tuft or tassel of silk, cord, or linen was tied. "Those suffering from an excess of mucus in the stomach should introduce the brush and remove the same."

At about the same time the stomach brush was used in France, Norway, and Germany, Sorbiere (16) tells of a Provencal who used to push into his stomach a stick of ash-wood three feet long, the lower end of which was in the form of a spoon, and therewith he cleansed his stomach. Pechlin (17) relates that two Norwegian peasants exhibited the trick before the court of Denmark in the presence of the king.

Leube (18) gives an interesting account of a German ambassador to Russia who returned from the Moscovite debauches with his stomach completely ruined. He was sent by the king to one of the monasteries for treatment. He found the inmates all in robust health. One frater was 115 years old and yet he was able to read and write without the use of spectacles. This gave him courage to undergo the mysterious treatment. He was obliged to donate a large sum of money to the monastery and give an oath not to reveal the *arcanum* as long as he lived. This *arcanum* was nothing else but a stomach-brush. He was given a goodly dose of brandy, and ordered to lie quiet for a quarter of an hour. Two fraters introduced the brush. He spat, vomited, implored and cursed, but the holy fathers went on with their work of scrubbing the stomach: *volens nolens*, he had to take a large quantity of water and the brush was once more introduced. This time large quantities of mucus, bile, blood and offensive pus were brought up. After partaking of some chicken broth and an elixir he soon fell asleep. The operation was repeated four times. It was then noticed that the food brought up with the brush was completely digested with the exception of a few pieces of turkey. The fraters reasoned that there must be some mucus still left in the stomach, and he had to undergo the ordeal once more. In eight days he was completely cured, and left the institution. For 14 years he used the brush himself, and kept the secret. But, to use his own words, "out of Christian pity to the many sick and afflicted and the consumptives who have lost all hope of recovery," he broke his vow. The arcanum has leaked out, and stomach brushes were manufactured in Leipsic and elsewhere by the thousands and sold as a cure for all sorts of sickness.

Socrates (19) asserted the stomach brush to be a panacea against all ailments emanating from the stomach, and even as a macrobiotic for all who wish to prolong their days upon the earth. 'Brushing out the stomach, with an elixir of saffron, aloes, and myrrh administered after, protects the body from poisons and pests; brings a good memory, improves the eyesight, etc., improves cold and hot fevers, asthma, mammary abscess, consumption, cephalalgia, apoplexy, toothache, croup, etc." It seems, the author remark, as if Death had laid aside his scythe and taken a stomach brush into his hands.

We possess a drawing of the instrument as given in the writings of Socrates and Heister. It is 24 inches long, made of a strong, carefully tempered, double brass rod, covered with plaited silk. At the lower end is attached a round brush of horse hair or goat's beard, which resembles the brushes now used for cleaning lamp chimneys. The *modus operandi* was very simple. The patient was given a little brandy and a pint of water. The brush was dipped in water and then introduced.

The citizens of Breslau were at one time stomach-brush-struck. Thus Kundmann (20) writes in 1737: "There was no beer company at which

some did not apply it themselves after drinking heavily, either the same night or on the following morning after having snored out their intoxication through the open mouth, if they were distressed with thick phlegm in the throat." "But," the author continues, "since those who have used the tube suffered either from nausea or continuous vomiting, some had hemorrhages, and others could not walk upright afterwards, a good many became asthmatic, and a few gave up the ghost, the credit of the tube fell as speedily as it rose."

I have dwelt at some length upon the history of the stomach-brush, because its form, application, and the enthusiasm with which it was received by both the profession and the laity of 200 years ago must be considered as an important landmark in the history of therapeutics. In an epoch when physicians were almost helpless in the treatment of internal diseases, and when, at best, they had a confusion of pharmaceutical agents whose actions were unintelligible to them —at such an epoch an internal organ was for the first time subjected to local chirurgical treatment in spite of the conservative objections of the savants of the day.

Leube, in his book, "Die Magensonde," to which we owe most of our information about the stomach brush, concludes his article as follows: "Nobody will wonder nowadays were the stomach brush to appear in a new and revised edition, and add to our instrumentarium for the treatment of diseases of the stomach. On the contrary, I hold it quite worthy of a trial to apply some such instrument as a therapeutic agent in cases of neurosis and atony of the stomach."

The prophecy of this great seer of gastrology, uttered some twenty years ago, has come to pass. At the International Medical Congress held at Rome, in 1894, Dr. Fenton B. Turck, of Chicago, presented an instrument which he called gyromele, and which is nothing else than the stomach-scratcher of two centuries ago, dressed up in the *fin-de-siecle* style.

The gyromele consists of a flexible cable to the end of which is attached a sponge covering a spiral spring which can be removed and changed. The cable passes through the rubber tube, and this, again, is attached to a revolving apparatus for the purpose of producing revolutions of the sponge within the stomach.

The gyromele is used for diagnostic and therapeutic purposes. As the evolutions of the gyromele can be readily palpated on the abdominal wall, it is therefore obvious that the size and position of the stomach can be ascertained.

It was found by the inventor that the revolutions of the gyromele stimulate the secretion of the gastric juice, and therefore it can be used as a means of differential diagnosis between functional disturbances and atrophy of the stomach.

The adherent material can be removed from the gyromele and subjected to a microscopical, chemical and bacteriological examination.

It can be used as a therapeutic agent in cases of functional anacidity, in mucous gastritis, where simply lavage is not sufficient to remove the mucus adherent to the wall of the stomach, and in cases of neurosis.

To return to the old stomach brush. As might be expected, it has fallen into disrepute; physicians have only used it now and then for therapeutic and diagnostic purposes.

Thus, Nahuys (1784) (21) reports a case of a neoplasm in the oesophagus where the brush was used to cause an inflammation and discharge of pus from the neoplasm by the hard friction of the instrument. In the celebrated case of Willis (1673) (22) the patient suffering from paralysis of the oesophagus, used for 16 years to push the food down with a modified brush; it was made of whalebone, at the end of which a piece of sponge was tied. Jobus Basterus (23) (1677), in a case supposed to have been "excrescentia glandulaeve in oesophago indurato," made the diagnosis by means of the sound, and proved that the oesophagus was permeable. Valisnery (1733) (24) used the sound as a dilator in a case of stricture of the oesophagus. Van Genus (25) (1767) in a case of stenosis of the cardi used a sound with an ivory tip of an oval shape, an instrument used to this very day. Abercrombie (1820) (26) used a silver wire, to whose end was attached an egg-shaped knob, in case of stricture of the oesophagus in which bougies were of no avail.

In cases of impaired deglutition, the question naturally rose how to introduce food or medicine into the stomach. To meet this indication the instrument must assume the form of a tube, the lower end reaching the stomach. The solid sound would not answer the purpose.

Hieronymus Capivacceus (1598) (27) was the first to recommend artificial feeding in cases of impaired deglutition, "canulam intra gulam immittendam," which canula was provided with a bulb holding nourishing fluid. By compressing the bulb its contents were driven through the tube into the stomach.

Fabricius ab Aquapendente (28) was the first to publish a comprehensive account of artificial feeding in cases of lockjaw. He introduced food through the nose by means of a silver bent tube, the lower end reaching above the epiglottis. In order to prevent the fluid getting into the larynx, the lower end of the tube was bent a little forward so that the contents would first run into the mouth and thence by the act of deglutition be swallowed. Later he recommended the passage of the tube around the posterior molar teeth.

The next modification that the stomach tube underwent was with reference to its size and the material of which it was manufactured. It became obvious that the tube must be long enough to reach the stomach and must be made of flexible material. The latter requirement was met by the ingenious Van Helmont (1646) (29) who taught how to make catheters from leather. To make a stomach tube, it was only necessary to make the catheter a little longer. John Hunter, the father of English surgery, in a lecture delivered before the Royal Society of Sciences, on May 20, 1771, (30) advocates among other things the injection into the stomach, through hollow bougies or catheters, such irritating substances as ammonia, turpentine, etc.

The idea of using a hollow sound with a bulb-syringe attachment for the purpose of injecting

fluid into the stomach once being firmly established, it was but a natural consequence that the same apparatus, by reversing the valves, should be applied in cases where the withdrawing of the stomach contents is indicated, *i. e.*, as a pump.

The English surgeon, F. Bush (31), was the first to use the stomach tube as a pump in cases of opium poisoning. He injected water into the stomach by means of the bulb, and then by reversing the valves he evacuated the thus diluted poison.

One of the earliest descriptions of the so-called stomach pump was given by Dr. Samuel Moore. (32).

The credit of the perfected stomach pump as it is used at present belongs to an American, Dr. Wyman (33), of Boston. The elder Bowditch (34) was the first to use it for the evacuation of empyematous collections.

In the second decade of this century various stomach pumps were described, invented, and used by Jukes (35), Ward (36), Reed (37), Weiss (38), and others. The sounds used in all the apparatuses were made of elastic rubber, 2 to 2½ feet long, and ¼ inch in diameter, at the end of which a perforated ivory ball was attached (Jukes); also the same tubes with their ends rounded off, having two openings at the sides (Reed and Weiss). Lafargue's (39) oesophagus tube had three openings, one at the end and two at the sides.

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TUMORS OF THE BREAST.*

By J. Abner Howard, M.D., Albany Springs, Vt.

WERE I to discuss all of the diseases of the breast in this paper in the manner they should be treated, this contribution would consume too much of the valuable time of the society. I shall therefore bring before you for consideration and discussion tumors of the breast, giving their modern diagnosis and treatment and showing how they were considered and treated about 50 or 75 years ago, which will show how

* Read before the Vermont State Medical Society.

we of the regular profession have not made the advance which the more successful treatment of the disease demands of us.

"Tumors form one of the most interesting subjects in the whole range of surgical topics. When we think how often the patient's knowledge of his chances for life or death hinges upon our diagnosis of a tumor, whether or not it is malignant or benign, we cannot fail rightly to regard its importance as second to no other. Were we to examine the records of the civil hospitals in this and other countries, we would find that tumors of one form or another, situate within some organ or upon some part of the human body, constitute a large proportion of all the cases in the surgical wards outside the general class of injuries. Technically the modern term tumor is applied to a neoplasm only, but to conform to the existing nomenclature, which includes cysts and hematomata, we define a tumor to be a generally non-inflammatory, abnormal swelling of some of the tissues of the body, due either to retained secretions, extravasated fluid, or new formation. From a practical or clinical point of view, tumors of the breast may be divided into the inflammatory, the adenoid, or innocent, and the malignant." As family physicians and surgeons, the diagnosis of these tumors will of necessity claim our attention. In this we cannot be too careful or painstaking; we cannot exercise any too great judgment, or neglect to use all the skill we possess, else we shall be guilty of gross negligence and perhaps in many cases deprive our patient of a good prospect of cure, by sending her away, saying to her: "It is not of much account. I think it will disappear, in case it continue to trouble you come in again and I will see about it." Who of us has not heard this said, or perhaps said something similar to a patient who came to us for consultation, having all the faith and confidence in our individual skill and judgment, in all things and upon all points, such as only women have? This kind of practice cannot be too severely condemned. If you are in doubt do not hesitate to say so, and call in some one of more experience to see the case with you. These patients neglected or wrongly advised by the family attendant and confidential friend, are quite liable to drift into the clutches of ignorant pretenders and charlatans, whose only knowledge of medicine and the treatment of this disease consist of their ability to compound certain drugs, so as to form a plaster which, when applied, will cause a mass of tumor tissue to slough and come away, many times deluding the patient into the belief of permanent cure. It is high time that we earnestly take hold of this, and see to it, that we bestir ourselves and take these cases out of the hands of unscrupulous, designing and ignorant pretenders and restore them to their proper place in the hands of the regular profession.

Etiology.—The origin of tumors is sometimes very obscure. They are frequently the direct result of an injury. Quoting Berger: "The form of traumatism predisposing to cancer is not so much a single severe injury as a succession of contusions which give rise to effusions of the blood and impair local nutrition. Prolonged or repeated irritation is more prone to lead to cancer when acting on tissues in a condition of senile involution." Vogel held that the blood alone is principally affected, but, in fact, solids as well as the blood are affected. Then, as to the theory of "constitutional taint"; that all cancerous growths depend upon constitutional taint, which involves the supposition of congenitally defective cells. Cohnheim believed that all tumors are congenital. It is not possible within the intended scope of this paper even to mention in passing the various ingenious theories that have been advocated on the origin of tumors, and we cannot to-day satisfactorily explain that indefinable factor in their production which we term individual suspectibility. Success or failure in the treatment of tumors or cancer depends largely upon an early diagnosis. The age of the patient furnishes one of the most important elements of diagnosis from a clinical standpoint. After the menopause has been thoroughly passed, every tumor of the breast is probably cancer. The first point the physician or surgeon has to determine, when consulted by a patient who has something wrong the matter with her breast, resolves itself in some form or another into the question as to the existence or non-existence of a tumor. That is, is there a new growth developed behind, within, or in connection with the mammary glands? Or is the disease from which the patient is complaining and suffering situated in the substance of the glandular structure itself? This first and very grave question is one which must needs be solved before a further step can with safety be taken towards the formation of a correct diagnosis of the case, and it is surely quite impossible to magnify its importance. To do this intelligently, much care is needed, and no small amount of manipulative skill is called into requisition; for a hasty, negligent or careless examination will surely end in an uncertain diagnosis, and with this starting point neglected or overlooked, through undue haste or otherwise, a failure in treatment must of necessity follow. The symptom of pain is so variable as to be of little aid in diagnosis, even in cancer of the breast, in which cases it is often very slight or entirely absent. The sense of touch, when educted by experience, is the almost infallible diagnostician of cancer. A physician may discard every other means, and yet correctly diagnosticate cancer with his index finger. I believe in the "local" origin of cancer as opposed to the "constitutional" origin. Permit me to quote Mr. Jennings upon this point: "Cancer first affects the body locally, spreads locally, invading the body along the lymphatic and vascular systems. Some soils are more congenial to the development of cancer, and tissues peculiarly favorable to the propagation of cancer, or the reverse, may be acquired by inheritance. The disease can be completely eradicated by surgical operations; and when they fail the inference is that they had not been undertaken sufficiently early nor with sufficient boldness."

Non-malignant neoplasms and tumors of the breast without a doubt are so often the precancerous stage of the disease, that after the cessation of the menopause we should not insist upon a

positive diagnosis before deciding to remove the growth. I believe that when the breast is removed, to be more certain that there shall be no return of the disease, it is necessary to also remove the axillary glands. The axillary glands are enlarged and hard when the patient first comes under our care in about 65 per cent. of all cases, and in one out of every twenty-two cases the glands of the neck are also invaded. The treatment of such cases should be early, and thorough removal of the breast and axillary glands, by the surgeon's knife under aseptic and antiseptic conditions, rigidly enforced.

I will rest the modern treatment of this subject and turn to its diagnosis and treatment by our ancient followers of Æsculapius.

Tumor—from *tumere*, to swell—a swelling.

Tumores, tumors, an order in the class locales, of Cullen's nosology, comprehending partial swellings without inflammation.

Cancer, the name of a disease. (From *karkinos*, a crab; so called by the ancients because it exhibited large blue veins like crab's claws; likewise called carcinoma, carcinos, by the Greeks; lupus by the Romans, because it eats away the flesh like a wolf.) Dr. Cullen places this genus of disease in the class locales and order tumores. He defines it as a painful scirrhous tumor, terminating in a fatal ulcer. Any part of the body may be the seat of a cancer, though the glands are most subject to it. It is distinguished according to its stages, into occult and open; by the former is meant its scirrhous state, which is a hard tumor that sometimes remains in a quiet state for many years. When the cancerous action commences in it, it is attended with frequent shooting pains; the skin that covers it becomes discolored, and ulceration sooner or later takes place, when the disease is denominated open cancer. Mr. Pearson says: "When a malignant scirrhus or a watery excrescence hath proceeded to a period of ulceration, attended with a constant sense of ardent and occasionally shooting pains, is irregular in its figure, and presents an unequal surface; if it discharges sordid, sanious or fetid matter; if the edges of the sore be thick, indurated, and often exquisitely painful and sometimes inverted, at other times retorted, and exhibit a serrated appearance; and should the ulcer in its progress be frequently attended with hemorrhage, in consequence of the erosion of blood vessels, there will be little hazard of mistake in calling it a cancerous ulcer." In men a cancer most frequently seizes the tongue, mouth or penis; in women the breast or the uterus, particularly about the cessation of their periodical discharges; and in children the eyes. The following description of scirrhus and cancer from the above writer will serve to elucidate the subject. "A hard unequal tumor that is indolent, and without any discoloration in the skin, is called a scirrhus; but when an itching is perceived in it, which is followed by a pricking, shooting, or lancinating pain, and a change of color in the skin, it is usually denominated a cancer. It generally is small in the beginning and increases gradually; but though the skin changes to a red or livid appearance, and the state of the tumor from an indolent to a painful one, it is sometimes very difficult to say when the scirrhus really becomes a cancer, the progress being quick or slow according to concurring causes. When the tumor is attended with a peculiar kind of burning, shooting pain and the skin hath acquired the dusty purple or livid hue, it may then be deemed the malignant scirrhus or confirmed cancer. When thus far advanced in women's breasts, the tumor sometimes increases speedily to a great size, having a knotty unequal surface, more glands becoming obstructed, the nipple sinks in, turgid veins are conspicuous, ramifying around and resembling a crab's claws. These are the characteristics of an occult cancer on the external parts; and we may suspect the existence of one internally when such pain and heat as have been described succeed in part where the patient hath before been sensible of a weight and pressure, attended with obtuse pain. A cancerous tumor never melts down in suppuration like an inflammatory one; but when it is ready to break open, especially in the breast, it generally becomes prominent in some minute point attended with an increase of the peculiar kind of burning, shooting pain felt before at intervals, in a less degree and deeper in the body of the gland. In the prominent part of the tumor, in this state, a corroding ichor sometimes transudes through the skin, soon forming an ulcer; at other times a considerable quantity of a thin lymphatic fluid tinged with blood from the eroded vessels is found on it. Ulcers of the cancerous nature discharge a thin, fetid, acrid sanies, which corrodes the parts, having thick, dark-colored retorted lips; and fungous excrescenses frequently rise from these ulcers, notwithstanding the corrosiveness of the discharge. In this state they are often attended with excruciating, pungent, lancinating, burning pains and sometimes with bleeding. Though a scirrhus may truly be deemed a cancer as soon as pain is perceived in it, yet every painful tumor is not a cancer; nor is it always easy to say whether a cancer is the disorder or not. Irregular hard lumps may be perceived in the breast; but on examining the other breast, where no uneasiness is preceived, the same kind of tumors are sometimes found, which renders the diagnosis uncertain. Yet in every case after the cessation of the catamenia, hard unequal tumors in the breast are suspicious; nor, though without pain, are they to be supposed indolent or harmless. In the treatment of this disease our chief reliance must be on extirpating the part affected. Some have attempted to dispel the scirrhous tumor by leeches and various discutient applications, to destroy it by caustics, or to check its progress by narcotics; but without material success. Certainly before the disease is confirmed, should any inflammatory tendency appear, antiphlogistic means may be employed with propriety; but afterward the operation should not be delayed; nay, where the nature of the tumor is doubtful, it will be better to remove it than to incur the risks of this dreadful disease. Some surgeons, indeed, have contested the utility of the operation; and no doubt the disease will sometime appear again; from constitutional tendency, or from the whole not

having been removed; but the balance of the evidence is in favor of the operation being successful, if performed early and to an adequate extent. The plan of destroying the part by caustic is much more tedious, painful and uncertain. When the disease has arisen from some accident, not spontaneously, when the patient is otherwise healthy, when no symptoms of malignancy in the cancer have appeared, and the adjacent glands and absorbents seem unaffected, we have stronger expectations of success; but unless all the morbid parts can be removed without the risk of dividing important nerves or arteries, it should scarcely be attempted."

In operating it is advisable, 1. To make the external wound sufficiently large, and nearly in the direction of the subjacent muscular fibers. 2. To save skin enough, unless diseased, to cover it. 3. To tie every vessel which might endanger subsequent hemorrhage. 4. To keep the lips of the wound in contact, not interposing any dressing, etc. 5. To preserve the parts in an easy and steady position for some days before they are inspected. 6. To use only mild and cooling applications during the cure. Supposing, however, the patient will not consent to an operation, or circumstances render it inadmissable, the uterus, for example, being affected, internal remedies may somewhat retard its progress, or alleviate the sufferings of the patient. Those which have appeared most beneficial are: 1, Arsenic, in very small doses long continued. 2. Conium, in doses progressively increased to a considerable extent. 3. Opium. 4. Belladonna. 5. Solanum. 6. Ferrum ammoniatum. 7. Hydroargyri oxymurias. 8. The juice of the galium aporine. When the part is external, topical applications may be useful to alleviate pain, cleanse the sore, or correct the fetor; especially: 1. Fresh bruised hemlock leaves. 2. Scraped young carrots. 3. Fermenting poultice. 4. Finely levigated chalks. 5. Powdered charcoal. 6. Carbonic acid gas, introduced into a bladder confined around the part. 7. A watery solution of opium. 8. Liquid tar or tar water. But none of these means can be relied upon for effecting a cure.

FOOD.

By G. B. Little, M.D., Burlington, Iowa.

IN the presentation of this paper it is not the writer's intention that its purview shall comprise a full and complete exposition of the subject of foods and dietetics, nor yet does he presume to offer much subject matter, either original or new, but to more particularly refresh the minds of some of us upon a few of those cardinal physiological principles entering into the problems of advising the healthy, and thus enable them to preserve their bodies in a normal condition and avoid disease, as well as to better enable the practitioner to deliver the stricken from their thralldom of disease—or possible death—and also to indulge the hope, at the same time, of eliciting such discussion as will much farther elucidate this important subject, and prove mutually helpful to us all.

Change is everywhere written upon the face of creation. It is a necessary condition of growth and development, and especially to the conditions of life and activity.

These changes are always ensuing in every active body, either by losses from within or from gain accruing from without by way of compensation, otherwise it would cease to be active—it would cease to live.

"These gains from without are derived from what we call 'food,' and the purpose of food is to supply the living organism, however complex or however simple it may be, with the substances or elements necessary for its growth and repair, and for the production and execution of those forms or modes of energy which we speak of as its function."

To constitute a perfect food, for any living thing, it must necessarily comprise all the elements of which its tissues, and all the solids and fluids, of which its body is composed.

When its composition is simple its food may be simple. The simplest vegetable organisms require for their food nothing beyond water and the gases of the atmosphere.

The carbon and nitrogen which enter in their composition are delivered from the carbonic acid and the minute quantity of ammonia always found in the atmosphere, and in solution in rain water. But when we come to consider the food of so complex an organism as that of man, we shall find his food requirements are correspondingly complex.

Simple organisms also appropriate their food in a very simple manner, and in the whole vegetable kingdom there is nothing to be found comparable to the function of digestion in the higher animals—for here the most elaborate processes, mechanical and chemical, are called into operation, in the appropriation of the complex substances they take as food. These processes are comprised in what are known as the functions of digestion and assimilation. So, then, we may define food to be any substance which, when introduced into the living organism, can minister to the maintenance of its structure and its activities, and a complete and perfect food for any living body will be one which comprises all the elements which enter into the composition of the tissues, juices and secretions of the body, as well as those which are needed for the maintenance of the chemical changes connected with its functional activity.

Man is an omnivorous creature and obviously must select his foods from a variety of sources—in fact, the domains of all the kingdoms of the earth must yield each its quota, and each contribute at least a moiety to his growth, development and maintenance.

The vegetable kingdom offers a class of organic foods, made up of compounds which comprise carbon, oxygen, hydrogen, nitrogen, sulphur and phosphorus Of these elements nitrogen is the most important—it is indeed the essential element of all living things; vital phenomena, the activity and change, characteristic of all living things, are found only when this element is present.

Parker has expressed this fact well when he says: "Every structure in the body in which any form of energy is manifested (heat, mechanical motion, chemical or electrical action), is nitrogenous. The nerves, the muscles, the gland cells, the floating cells in the various liquids, the semen, and the ovarian cells are all nitrogenous. Even the non-cellular liquids passing out into the alimentary canal at various points, which have so great an action in preparing the food in different ways, are not only nitrogenous, but the constancy implies the necessity of the nitrogen, in order that these actions shall be performed, and the same constancy of the presence of nitrogen, when function is performed, is apparently traceable through the whole world. Surely such constancy proves necessity."

Thus we see that animal life is largely indebted to the vegetable kingdom for its food products, but not wholly so—for these kingdoms of nutritious wealth are so closely interrelated that one is scarcely separable from the other, and animals, in the processes of nutrition, and in the development of their various forms of energy, feed upon and appropriate these products of animal, vegetable and mineral origin. They convert them into organic compounds, or decompose them in the process of nutrition, with the aid of oxygen and other elements found in solution within the system, and resolve them finally into the simpler elements from which they originally proceeded, to possibly again do service in the great enconomy of nature.

The various organic and inorganic compounds which enter into the composition of the human body may all be resolved into thirteen (13) elements, and when familiar with the elements of which any body is composed, we can better understand its various needs, and also trace deviation from its normal condition. These essential elements of the human body are: Carbon, hydrogen, oxygen and nitrogen (these four in far greater proportion than the others), sulphur, phosphorus, chlorine, iodine, potassium, sodium, calcium, magnesium and iron. Others have been discovered in the body, but it is doubtful if they are invariably or necessarily present.

All of these elements must be represented in the food of man, and must be, for the most part, combined in the form of organic products, capable of being appropriated by the digestive organs.

Physicians outside of centers of learning are rarely consulted with regard to the selection of food in health, men being guided by the cravings of their appetite, and the force of custom, in eating. Still, a recognition of the existence of this factor, in any case of disease, will naturally lead to such a regulation of the diet as is most favorable for restoring and maintaining health. This truth was properly appreciated by the ancients, who made some application of it, guided by experience alone, but "the scientific basis of a system of rational dietetics could not be laid until the first principles, at least, of the processes of digestion and metabolism in the human body, under normal circumstances, and under pathological conditions, were known."

Acquaintance with the chemical composition of foods, and the proximate principles of which the body is composed, and a definite knowledge of the part played by each in the organism, were necessary before we could properly solve the relation of the dietetics to diseased conditions, and make the proper selection of viands for the sick.

The principles of dietetics, and likewise the physiology of nutrition, apply equally in disease and in health, the only difference being that in disease the power of digestion and assimilation, with the secreting and excreting functions, are more or less impaired. The food, therefore, must be of a character suitable for assimilation, of nourishing quality, and administered in quantities and at such intervals as appear best suited for the case. The aid which properly selected food can render in the treatment of disease is now generally acknowledged.

If, as Abernethy is reported as saying, it be a fact that the cause and cure of most diseases are at the table, the importnce in the therapeutics of food is no less than drugs.

Oliver Wendell Holmes, nearly 30 years ago, in his essay on the "Border Lines of Knowledge in some Provinces of Medical Science," declared his high appreciation of this subject as follows:

"I cannot help believing that curative medical treatment will, by and by, resolve itself in great measure into modifications of the food swallowed and breathed, and of the natural stimuli, and that less will be expected from specific and noxious disturbing agents, either alien or assimilated."

Dr. Austin Flint, in his posthumous address on the "Medicine of the Future," prepared for the meeting of the British Medical Association in 1886, expressed a similar idea:

"It is a pleasant thought that, hereafter, the practice of medicine may not be so closely interwoven as hitherto, in the popular mind, with the use of drugs. The time may come when the visits of the physician will not, as a matter of course, involve the co-operation of the pharmacist; when medical prescriptions will be divested of all mystery and have no force in the way of fortifying the confidence of the patient. The medical profession will have reached an ideal position when the physician, guided by his knowledge of diagnosis, the natural history of disease, and existing therapeutic resources, may with neither self-distrust, nor the distrust of others, treat an acute disease by hygienic measures without potent medication. When this time comes a system of practice, which assumes to substitute medical dynamics for the 'vis medicatrix naturae,' will have been added to the list of bygone medical delusions."

We have said change was a necessary condition to existence. Let us now briefly trace the physiology and chemistry ot digestion, in order that we may be better capable of following and appreciating the role played by food in the production of both health and disease. Chemically, the proximate principles of the food are inorganic or mineral, and organic, the latter being divided into those which do, and those which do not contain nitrogen. The non-nitrogenous are again subdivided into hydrocarbons, and carbohydrates.

The carbohydrates (starch and sugar) contain oxygen and hydrogen, in the proportion to form water. Hydrocarbons (oils and fats) are compounds of hydrogen and carbon combined with a small proportion of oxygen.

In addition to these three principal varieties of organic substances, we consume organic acids, present in vegetables and fruits, and pectin, which occupy an humbler position to nutrition, but which assist in maintaining animal heat.

Nitrogenized organic elements find their type in albumen and on account of their importance are called "proteids."

Albumenoids are characterized by the presence of carbon, oxygen, hydrogen and nitrogen, with other elements variously combined. They occur in both animal and vegetable kingdoms. The problem of digestion is, to render albumen, sugar, starches, fats and other food ingredients soluble by being converted into peptones, through the activity of the gastric juice, and in the small intestines by the alkaline pancreatic fluids. Starch becomes maltose and glucose by the saliva, and by the pancreatic and intestinal juices. The bile favors the digestion of fat by emulsifying it, and by its action upon the villi and its antiseptic qualities, preventing the fat from being converted into fatty acids.

The pancreatic secretion also acts upon the fatty articles, emulsifying them, and favoring their absorption. The portal blood and liver transform peptones into serum albumen, and change the glucose, derived from starch, back into an insoluble form called glycogen, in which form it is stored up in the cells of the liver, to be given out, but in small quantities, as is needed to supply the energy to the tissues. Fat is absorbed, and gradually assimilated by the lacteal vessels and general circulation.

Let us now briefly consider, by a few examples, the manner in which these necessary food elements become, not only not harmless, but positively hurtful in the human economy as well as the reverse. The American people are notably a flesh eating or a nitrogen consuming people, hence, we find a large proportion and ever increasing amount of liver and kidney diseases, with the many obscure symptoms that find their etiological position under the head of biliousness, with lithaemia and uraemia, which conditions can be readily removed by restricting nitrogenous food or prohibiting the meat diet.

Anaemia and chlorosis and allied conditions, on the other hand, require for their removal a highly nitrogenized diet, as the blood in these conditions is lacking in nitrogen, the vitalizing and energizing constituent of food.

In marasmus, unless the child be suffering from tuberculosis or malignant disease, the best results can be anticipated from an abundance of good food, suited properly to its powers of digestion and assimilation, with proper regard to an abundance of fresh air, proper clothing, massage and sleep.

Rickets, another of the protean forms of tuberculous manifestations, has been shown to be due to improper feeding. The cure is primarily and chiefly dietetic. Drugs are of minor importance, though lime, warm clothing, fresh air and sunlight, with fatty aliments, with proper diet, are certainly of service in these cases. What physician would presume to cure rheumatism or gout or obesity, the latter a condition engendered by the accumulation of large portions of surplus nutritive material in the form of adipose tissue, without first limiting and eliminating the redundant morpholgical elements.

In most skin diseases, both acute and chronic, the cure lies largely in a thorough regulation of the diet, and promoting a high degree of elimination by keeping all the "sluices open." Physiological chemistry has done, and is still doing, much to make the solution of the food problem easy. There never was, in all the history of medicine, a time when both the literature and the market were so teeming with new candidates for the consideration of the practitioner, applied in both health and disease, as at the present time, all, or nearly all, of which possess, to a greater or less degree, the commendable features of representing the proximate principles, and favoring the easy assimilation of large increments of energizing elements. From the days of Alexis St. Martin, when scarcely the A B C's of the digestive function were fully understood, to the stomach tube and analytical chemist of the present day, science has been gravid; and at intervals has been in the very throes of desperate labor, seeking to deliver a code of reliable principles which should unerringly guide the physician in counseling the healthy and removing the burdens and afflictions of the sick by the physiology and therapeutics of alimentation. Epigrammatically speaking, man stands upon his stomach, the term stomach being used in a figurative sense. To be more specific, the digestive system is in its relation to the utilities of life before all, through all and back of all vital processes. It is the very gateway to the citadel of animal existence, the *sine qua non* of all vital action. Here Hygea plants her throne and wields her scepter of authority, and at her edicts do come and go all the cohorts which do her bidding. Her *ipse dixit* constitutes the source of all commands, both directive and inexorable, and he who dares to question or refuse to perform her kindly behests is doomed to disappointment and defeat.

In every living tissue from the earliest embryonic cell to the complex and most complicated structure, there must exist that metabolism which is involved in the struggle for the "survival of the fittest."

The contest is by collective vital force of the elements of composition, and is both constructive and destructive. The digestion and assimilation of food are the constructive processes, but are readily overcome by the destructive metabolism of disease, both by arrest or interference with these functions as well as by the toxic products of disease by which excessive waste destroys the equilibrium of all vegetable function and also proves directly noxious to the system. By the constructive and destructive conditions incident to digestion and assimilation, tissue either lives faster than it dies, which results in health and development, or else dies faster than it lives, and the

balance is on the side of excessive waste or disease, and unless the normal co-relation of nutrition and waste is restored and maintained, tissue is doomed to impairment and ultimately to death.

Natural immunity to tissue depends upon its defensive powers, defensive powers upon vital resistance and vital resistance upon vital force. In the maintenance of vital force nutrition plays the important role. It wholly relies upon it.

Vital resistance can only assert itself under conpitions of normal nutrition. When normal nutrition suffers, physiological tone lags and defensive powers are then more easily overcome by a morbid foe.

Again normal nutrition is not possibly without perfect digestion and assimilation. One depends upon the other. We must keep them connected.

Thus we have seen the links in normal metabolism, and what great importance must be attached to the same. With the light of modern pathology applied therapeutics have in a great measure changed. Greater knowledge concerning the importance of vital resistance of tissues against the onslaught of disease has in many instances completely overthrown our methods of treatment. The present problem of the healing art is to conserve and to aim for the support of tissues. We now carefully lay in our proper supplies to meet and conquer the enemy. We no longer unwittingly cripple our defensive forces as was done in the past, but we apply such medication as will improve and restore nutrition, and among the most valuable of all the physician's armamentaria, if indeed not the very first and most valuable member, stands food.

THE TREATMENT OF TUBERCULOSIS OF BONE. *

By Frank Warner, M.D.,

Professor of Operative and Clinical Surgery, Starling Medical College; Surgeon to Children's Hospital, Columbus, Ohio.

TUBERCULAR deposit in bone had long been suspected before its real character had been proven—before it was possible to prove it by Koch's bacillus tuberculosis. There are often so many associated features of a tubercular nature that tubercular bone needs no other proof but them. The diagnosis of tubercular bone is usually attended with slight difficulty. If we remember its favorite seats of assault and the youthfulness of the patient generally assaulted, we will not be led astray in diagnosis, and with the proper diagnosis much less likely to institute improper treatment.

The hip-joint, or, as I am speaking of tuberculosis of bone alone, the epiphysis near the joint, the bodies of the vertebra, about the knee joint, ankle joint, in the tarsal bones and carpal bones, and in children the phalangeal bones, are the places we are most frequently called upon to treat tuberculosis of bone. The tibia is infrequently assaulted. Nowhere are the results of early treatment more manifest; nowhere more destructive than in this very class of cases.

* Read before Ohio State Medical Society, May 6, 1898.

If taken early, I am satisfied that a great many cases of slight tubercular bone affection subside in a short time by rest alone. Especially is this true when the tubercular process starts from slight injury, as about the hip-joint. For rest lessens the general hyperaemia and, with this lessened, the tubercular process is diminished or abolished. This is equally true about the vertebræ under like conditions, although so many times we find Pott's disease developing without any history of real injury to these bones. Much of the value of rest is in causing the acute results of the injury to subside. But in either event early rest is of the greatest value. This rest must not be too long continued at the expense of fresh air, light, sunshine, and some general exercise. If such a policy is adopted you will begin to see the patient growing excessively pale, the muscles becoming flabby, the appetite poor, and a general expression of a patient who is progressing in the wrong direction.

If we are not able to early correct a tubercular infection of this character—and I am lamentably aware this is so often a fact—then we must consider our operative procedure.

Wherever a tubercular deposit is readily accessible I do not hesitate to make an early incision and curette the bone thoroughly, pack the cavity with sterilized iodoform gauze, and then do whatever can be done in the way of building up the patient by general tonics, cod liver oil, and admitting as much fresh air to the room as is compatible with comfort; not forgetting, at the same time, to admonish those in charge of a private residence the necessity of admitting as much light or sunshine as is possible. We must not lose sight of the fact that light is an eternal enemy of the bacilli tuberculosis. So many times we see the shades of the sick room drawn. Let the bed be so arranged that the patient's eyes will look toward the wall and not the window, then the necessity of shading the room will not exist.

It is always a difficult matter to know when you have sufficiently curetted a tubercular bone; but it is much better to err on the side of thoroughness than to subsequently find your curettement has been insufficient to stop the carious process. A small nidus of infection left may be sufficient to again start up a carious process, which may finally result in total destruction of the bone.

It is always an important problem to know just what to do with large tubercular abscesses when the carious bone which produced them is so deeply seated as to be not readily accessible. I am not willing to say an inaccessible bone, for I know not what time some surgeon will regard the tubercular bodies of the vertebræ best treated by curettement of the focus of infection.

If these large cavities could always be well and constantly drained, then free incision should be practiced. Or if they could be kept aseptic even with limited drainage, a like practice should be instituted. So many times neither of these ideal states can be obtained.

When it has seemed likely there is going to be great difficulty in maintaining a constant aseptic condition of one of these large abscesses resulting from tubercular bone, then the aspirator should

be used conjoined with injection of iodoform emulsion. But this process is slow and not an ideal one by any means, but preferable to a prospective septic infection of one of these large abscess cavities. The aspirator has, however, only a limited field in the treatment of the results of tuberculosis of bone. Where a cavity can be so arranged as to be thoroughly flushed daily with an antiseptic solution, no fear need be entertained either as to complete drainage or septic infection of the cavity. When this is the case, no hesitancy should be used in selecting incision as the best mode of treatment. In cavities that are at all deep it is always better to secure a counter-opening. Cavities can then be flushed that it would be impossible to cleanse in any other way.

By thoroughly cleansing the cavity septic infection is prevented, that would otherwise beget a periostitis and osteitis that will not only add to the destruction of bone, but by the hyperaemia occasioned produce a most favorable condition for the extension and perpetuation of the tubercular disease of the bone.

The favorite seat of assault is the cancellous structure of bone. While the long bones are the favorite seat of attack of syphilis and seldom of tuberculosis, I recently saw a typical case of tuberculosis of both tibiæ and fibulæ at the Children's Hospital, which yielded readily in one leg to a trephining of the tibia and a curettement of the diseased area in the fibula. The destructive process in the other leg, through an exensive rarefying osteitis, was such as to demand an amputation. I am satisfied that a much longer delay in treatment would have necessitated an amputation of that leg as well, for there was found a tuberculous mass in the cancellous structure of the tibia, a somewhat diffused rarefying osteitis, with considerable swelling of the bone. An unbroken periostium only added to the tension of the swollen bone, which in turn could only increase the rarifying osteitis By trephining this class of cases at the point of greatest swelling, we not only get rid of a considerable area of infected tissue, but at the same time lessen the tension upon the bone so as to diminish or abort the extension of the accompanying rarefying osteitis, or diminish the likelihood of the destruction of a portion of the bone *en masse*.

While I have spoken of rest as such a prominent factor in the treatment of tuberculosis of the bone, I do not mean we should blindly put to bed all such cases, but where the affected bone can be put at rest by mechanical appliances, a reasonable amount of outdoor exercise will be found far more conducive to a subsidence of the tubercular process. The tarsal bones might be put at rest in a plaster of Paris cast, cut open upon the dorsal surface for inspection, and the patient put upon crutches; the hip-joint in a measure immobilized, or the opposing surface kept separated by braces of one kind or another. Yet, here we must not go too far, for many of these cases do better in bed. A tentative trial of the two methods might be employed and the one selected for more prolonged treatment which promised most.

Tuberculosis of the bodies of one or more of the spinal vertebræ, often does well by the rest and fixation given by braces, plaster of Paris casts or leather jackets, yet we must not carry these appliances too far at the expense of rest in bed. Where a knuckle of bone is large and continues to enlarge in spite of your carefully adjusted appliances, it is much better to put the patient to bed for a considerable season, then, later, try the braces again. Seldom, however, do I find the cases of extensive tuberculosis of the bodies of the cervical vertebræ benefited by any mechanical appliances—as the jurymast or other contrivance—in anything like the degree of improvement which results from rest in bed alone.

GUNSHOT WOUNDS—TWO UNIQUE CASES.

By J. T. Benbrook, M.D., Rockwall, Texas.

IT is not my intention to write a thesis on gunshot wounds but to give you briefly in my own manner a history of two very important and very unique cases met with in actual practice within the past few years.

These two cases are very similar in their nature to each other, as the organs of reproduction in both instances are the seat of injury and very dissimilar, as the one is the female and the other the male organs. In Sepember, 1893, I was called to see Mrs. M., who had just received two wounds from a 44-caliber pistol. The first shot taking effect just below the crest of the left ilium, the ball ranging downwards and backwards, lodging against the first vertebra of the sacrum.

The opening was enlarged and the wound probed with the finger, and later with a porcelain-tipped probe, but failed to locate the ball. Eight or ten days later the location of the missile was made known by the formation of a sacral abscess, which was opened, and from which was discharged about six ounces of thick, heavy, yellow pus. A quantity of necrotic tissue was found and dissected away, leaving bare the bodies of the first and second sacral vertebrae. The wound was now dusted with iodoform powder and dressed with iodoform gauze; the temperature, which had been running quite high for the past few days, dropped within a few hours to normal, the waste place was rebuilt with healthy tissue and the wound healed in due course of time. The injury received by the second shot is the one to which I desire more especially to call your attention. The woman was lying on her left side when she received the second or last shot, the shooter standing at or near her head; the ball passed between the eighth and ninth ribs of the right side, on a line from the axilla to the crest of the ilium, cutting a small nick from the lower border of the eighth rib. The wound was examined sufficiently only to demonstrate the fact that the ball had penetrated the abdominal cavity. A do-nothing treatment for this injury was decided upon; an antiseptic dressing was placed over the open-mouthed wound and results anxiously awaited. Patient rested reasonably for the first few days. On the morning of the third day she complained of backache; said her menses had come on her

during the night and it was yet two weeks until her regular time. After leaving her a few hours, a messenger came in haste and was very urgent that I return in like manner to my patient; reaching her in a short time she was found quite exhausted, but resting easy; said she had been sufering agonies, with pains identical in character to labor pains, that a quantity of blood clots had passed, and since the passage of the last one she had been resting easy. I made a digital examination of vagina and cervix, which revealed to me no satisfactory cause for the course things had taken. The nurse removed a sheet that had been folded and placed between the patient and the bed clothing, and carried it into an adjoining room, when the ball that had passed into this woman's body between the ribs fell to the floor with a thud. The etiology of her menstruation was now clear. This ball had passed through the fundus of the uterus into the cavity of this organ, and had been thrown off by uterine contractions.

Passing abruptly from the female uterus to the male penis, we come to case No. 2.

Mr. C., aged about 45, was accidentally shot while rabbit hunting with a 32-caliber pistol, the ball penetrating the skin on the left side, about one inch to the right of the anterior-sperior spine of the ilium. The ball was deflected by the deeper fasciae or by Poupart's ligament, and was found imbedded in the dorsum of the penis at its root, its base lying well up against the symphysis pubes, and its apex looking along the urethra towards the glans-penis. One of my neighbor physicians was first called to see this case, and said it was very difficult for him to locate the ball; in fact, did not succeed in so doing until the second day after the injury, when he was very materially assisted in its location by the excessive sensibility of the part over the imbedded missile. I assisted him in removing the ball the third day; an incision was made down into the dorsum of the penis at its base, and the ball found lying well down against the urethra, was lifted away with a pair of small dressing forceps.

A marked ecchymosed condition of scrotum, penis and adjacent tissue was observed; in fact, the whole pubic region was as black as a crow. The urethra was not injured, and the patient experienced no difficulty at any time in urinating. He made a speedy and complete recovery, and congratulated his attendants on having saved for him so important and useful an organ.

TUMOR OF THE SCROTUM.*

By W. C. Dugan, M.D., Louisville, Ky.

This patient, Mr. W., is seventy-two years of age, and has such a peculiar condition that I asked him to come before us this evening. He is a friend of mine from the country, and I know it is rather embarrassing to him to appear before the society, but he consented to do so as a favor to me.

You will see he has an elongation of the scrotum to such an extent that it hangs two and one-half inches below his knees. This condition has existed for twelve years, its development being thought to be due to an injury while riding horseback at that time, and it has grown considerably since I saw the patient last year. Both testicles are normal in size and position. He says that the tumor has never given him any pain, though the inconvenience from the mass hanging below the knees is considerable, and its great weight also causes discomfort. During hot weather the sides of this elongated scrotum become chafed and sore, and he now comes to me to have the scrotum removed.

Since the patient has been excused, I will state that he came to me a year ago with this tumor, which had been almost painless, but had continued to grow; it has grown much faster than he has led us to believe. It is now certainly one-fourth larger than it was a year ago.

Just what the nature of the growth is I am not prepared to say, but think it is a fatty tumor of the scrotum. It is peculiar in many respects; it has a lobular, doughy feel; when the skin is brought taut over the growth the lobulations are plainly shown attached to the deeper layers of the skin.

I propose to remove this tumor under local anesthesia, and I will have no trouble in doing it, I believe, using Schleich's solution instead of the ordinary solution of cocaine. I have recently operated quite a number of times for various conditions under local anesthesia produced by Schleich's solution, with eminently satisfactory results. I have even performed several amputations in which the patients complained of little or no pain under local anesthesia by this method, and shall use it in this case.

Later Report.—At the last meeting of this society I presented a man, aged seventy-two years, with an enormous tumor of the scrotum, which extended two and a half inches below his knees, which had existed for twelve years. It had come on gradually, but had increased very materially in size during the last year or two.

I now exhibit the specimen, which was removed the following day under local anesthesia, the stronger solution devised by Schleich, viz.: one grain of cocaine, one grain of common salt and 2-15 grain of morphine to the ounce of water. He had no pain during the operation; there was little or no hemorrhage; the patient did perfectly well, and went home the sixth day after the operation.

We all thought before the operation that the tumor was a lipoma. It may have been originally a lipoma, but it is not now. I think it is a myxoma, which is generally a degenerated growth. The tumor sprang from the posterior part of the scrotum, and, as already stated, hung fully two and a half inches below the man's knees. It was of twelve years' standing. At first it grew slowly; there was no pain attached to it, with the history that he had injured his testicle in mounting a horse. Whether that had anything to do with the development of the tumor I cannot say. Two years later he noticed there was a tumor growing from the scrotum, which he discovered while taking a bath. He examined it carefully and at the time thought it was attached to the testicle. A year or two afterward, while again mounting a horse, he thought he displaced the tumor and separated it from the testicle, and from that time on seemed to be entirely apart from the testicle. The last two or three years it had grown rapidly. I saw the patient a year ago, and advised removal of the growth, and since that time I am satisfied it has increased in size more than one-quarter. It was a pedunculated tumor, the lower part of it very large, and when removed weighed 5½ pounds.

I made a circular incision, but found some difficulty in hulling the tumor out. Considerable dissection was necessary in removing it. I think it originated in Geraldi's ducts. You will see that the tumor is distinctly lobulated, and when the skin was drawn taut over the growth it had every appearance of a fatty tumor.

DISCUSSION.

Dr. F. W. Samuel: I saw the gentleman when Dr. Dugan presented him. The interesting features about the case to me are the man's age, the size of the tumor, the ease with which it was removed under local anesthesia and the prompt recovery after the operation. I saw the old gentleman walking about the yard at the infirmary three days after the operation.

My experience with local anesthetics, when injected into the tissues, has not been extensive, and there has always been more or less pain attending the operations.

In regard to the pathology of the growth before us:

* Reported to the Louisville Clinical Society, and stenographically reported for this journal by C. C. Mapes.

When I examined the growth before removal, because of pitting of the skin, etc., I was inclined to believe, and so expressed myself, that it was a lipoma. It is possible that it was originally a lipoma and sustained some injury and consequent inflammation while the man was attending to his vocation. There was evidently some inflammatory action because of the extensive adhesions present, and its lobulation probably deceived us in first examination. From its appearance now I am inclined to take the view that it is a myxomatous growth.

Dr. W. H. Wathen: I am unable to discuss the case as I would like until we have a microscopical examination and learn the nature of the tissue of the tumor. I believe, however, that it was primarily a myoma in a histo-genetic sense, with some form of degeneration taking place later. It is astonishing what large myomata sometimes arise out of a small amount of muscular structure. We really cannot account for the rapid growth from such a small amount of tissue in some cases of myomata, particularly when they are about the uterus. Sometimes the fibrous tissue develops rapidly and again we have myxomatous or malignant degeneration.

This case, so far as I have observed, is unique, and it demonstrates how a surgeon of tact and experience can operate upon and remove a tumor of this magnitude without the use of a general anesthetic, causing his patient to suffer no pain, and in a few days be well and able to go home. It marks another evidence of the progress in the technique of modern surgical operations.

Dr. August Schachner: I doubt very much whether it is necessary to use the Schleich solution in doing operations of this nature. Salt solution will answer the purpose about as well—at least this has been my experience. The small amount of cocaine used in the Schleich solution makes but little difference. I ascertained this in removing a large lipoma of the thigh in which I infiltrated one-half the area at the base of the tumor with a mild cocaine solution, the other half with salt solution, and there was absolutely no difference in the two halves as to pain during the operation. In another case I used nothing but a salt solution, and the operation was performed without the patient experiencing any pain. The milder Schleich solution contains little cocaine, and even with the stronger solutions the amount of cocaine and morphine is hardly sufficient to make any great difference in the degree of local anesthesia.

I have found that infiltrating the tissues with water will produce sufficient local anesthesia to perform minor operations.

Dr. W. C. Dugan: I would not have operated upon this man had I been forced to give a general anesthetic. With a man seventy-two years of age, and an operation performed purely for its cosmetic effect and for convenience, general anesthesia would not be justified.

I agree with Dr. Schachner in regard to the infiltration method for production of local anesthesia. I have found by infiltrating the tissues with water I have been able to open boils, abscesses, etc., absolutely without pain. I believe, however, that the strong solution of Schleich has an advantage over water or a saline solution. I have found that in using simple water or a saline solution that the anesthesia is sometimes over before the operation is completed, and the patient complains of pain. I have performed several perineorrhaphies, operations for cystocele, etc., under Schleich's method of anesthesia, and the patients complained of no pain. I recently did quite an extensive operation for lacerated perineum under local anesthesia with no pain.

In this case I was a little doubtful as to the result, thinking possibly the solution might cause the tissue to break down, but it did not. I never saw a more beautiful result. While the patient was seventy-two years of age, and the tissue was necessarily low in vitality, it united *per primam*, and, as Dr. Samuel has stated, the man was up walking about three days after the operation. He wanted to go home on the fourth day, but was persuaded to remain until the sixth day after the operation.

A physician in Philadelphia recently told a woman who consulted him that he would not prescribe for her if she persisted in wearing black or somber garments, as he considered her peculiar neurotic condition partially due to the depressing effect of her clothing.

A COUNTRY DOCTOR.

Epaminondas White, M.D.,
A skilled practitioner was he.

If any one in town was sick,
E. White, M.D., was sent for quick.

For almost every human ill
He had a good corrective pill.

To those who seemed too sick to live
He knew exactly what to give.

There was no human ache or pain
That was not to his vision plain.

He made his calls for miles around,
And everywhere a welcome found.

He helped new babies see the light
And never growled when called at night.

His bills were very modest, too,
And most of them are overdue.

His fame filled all the country-side,
And all were sorry when he died.

Now on his tombstone you may see
"Epaminondas White, M.D."—*Exchange.*

Water.—*The Cleveland Journal of Medicine* says: "There are no well-ascertained facts on which to ground a conclusion that dilution of the gastric juice within any limits permissible in the size of the ordinary stomach is in any degree harmful. All modern studies of gastric digestion tend to show that all excess of fluid taken at meals is promptly ejected in gulps into the small intestine (a proved fact), or absorbed by the stomach wall. Further, gastric digestion occupies a period of two to four hours, during which time gastric juice is constantly being secreted and all excess of fluid would be absorbed by a normal stomach in a half-hour. Of course, in a stomach already crippled in motility or in secretive power these statements would probably not hold good, and it would then seem best to limit the quantity of fluid at meals. In healthy people that the above reasoning is true seems to be readily proved by the enormous number of healthy Americans who ingest great quantities of fluid at meals for years with no apparent damage. It is easier to do harm by taking too little water than by too much, in health at least. Even supposing that in digestion the fluid was not early disposed of, we know quite positively that both hydrochloric acid and pepsin act more freely upon proteid matter when quite dilute than when more concentrated.

Does Decapitation Cause Immediate Unconsciousness?—The executions in Paris during recent years have revived the old question whether death instantaneously follows upon the severance of the head from the body (*Mass. Med. Jour.*). Dr. Cinel asserts that decapitation does not immediately affect the brain. He says that the blood which flows after decapitation comes from the large vessels of the neck, and there is hardly any call upon the circulation of the cranium. The brain remains intact, nourishing itself with the blood retained by the pressure of the air. When the blood remaining in the head at the moment of separation is exhausted, there commences a state, not of death, but of inertia, which lasts up to the moment when the organ, no longer fed, ceases to exist. Dr. Cinel estimates that the brain finds nourishment in the residuary blood for about an hour after decapitation. The period of inertia would last for about two hours, he thinks, and absolute death would not ensue till after the space of three hours altogether. If, he adds, a bodiless head indicates by no movement the horrors of its situation, it is because it is physically impossible that it should do so, all the nerves which serve for the transmission of orders from the brain to the trunk being severed. But there remain the nerves of hearing, of smell and sight, and he concludes that the guillotine does not cause instant death. If this be true, could any other form of death be more merciless?

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Let not future things disturb thee; for thou wilt come to them, if it be necessary, having with thee the same reason which now thou usest for present things.—MARCUS AURELIUS.

ONE OF THE LESSONS OF THE WAR.

IN the midst of the congratulations, among liberty loving people everywhere, that so much has been accomplished within the past few months in the cause of freedom, and the opening of a broad avenue, not only in the islands of the Western Hemisphere but in the Eastern also, to the progress and development of the human race, there comes also a feeling of sadness and shame for the worse than blunders which have characterized the arrangements for the care of the sick and wounded from the commencement to the end of the war. There is no question that for days and weeks brave men not only faced death on the battlefield, moving on step by step in the face of a storm of bullets and of bursting shells, never flinching, but that the wounded, as they dropped out of the ranks, failed to receive the hospital care which should have been ready for them. Who is responsible for the dark lines in that otherwise bright and glorious picture of skill, courage and heroism, in a war which will stand out in history through all time as one of the noblest, most unselfish efforts of a great nation fighting the battle of truth, justice and humanity? In the lack of foresight and the apparent neglect which has carried sadness to so many hearts, the nation, in placing the responsibility where it belongs, will not fail to learn a lesson which will prevent the possibility of any similar trouble in the future. It was apparent, even during the preparatory stage, that neither the quartermaster nor the commissary department, after thirty years of doing almost nothing, had any intelligent conception of the magnitude of the work it was suddenly called upon to perform. Most of the men in both branches were antiquated in ideas and knew nothing of the rapid and orderly assemblage of large quantities of material, and created chaos instead of organization whenever they attempted to direct things themselves. Col. Weston, who unloaded the transport at Siboney, said that the cargoes were so mixed that it was impossible to tell, if you went after provisions in any ship, whether you would find tobacco or hay instead of canned meats in the designated place. So few stevedores were sent that it was necessary to make a trip to Jamaica to get help to discharge the cargoes.

Had a trained transportation agent, such as could be had from almost any of the large transportation companies, been placed in charge, the work of loading and unloading the vessels would have been performed with such order and dispatch that there could be no possibility of delay or confusion. It was work which required long training to accomplish successfully.

Mr. Henry S. Stoddard, the clear-headed correspondent of the *Mail and Express*, was present at the landing at Siboney and reports what he himself saw in the camp, the field and the hospital:

"One day the commissary in the field had an abundance of coffee, but no hard-tack; the next day he would have neither coffee nor hard-tack, but bacon, canned beef or beans; the next he would be shut down entirely and there would be nothing at all. Again, we would find lime juice, ginger ale, potatoes, onions, tobacco and meats going over the counter, and such a rush as there would be! In an hour's time often the entire supply would be exhausted. The result was that those who chanced to be around the commissary stores when the supply arrived there got all they wanted, while other poor fellows, who had walked in from the trenches at the front, four or five miles, were compelled to return to their regiment empty-handed.

"What happened in this way to the soldier happened also to the medical department. The physicians and surgeons whom I saw at the different hospitals worked like Trojans, and there is one instance of a surgeon who remained at the operating table for 30 hours continuously rather than let the wounded suffer. I saw one doctor give up his shelter tent and remain in the rain one night in order that a sick man who had no shelter should be protected, and I know of other

instances in which, when the food supply ran short, the doctor in charge and his assistants gave theirs to the men in their care. There is not the slightest doubt that every doctor in Cuba did the work of three, for the hospital staff was about a third as large as it should have been. If they had no proper food for the wounded or sick, if there were no tents of any kind to protect them, it was not the fault of the hospital authorities, but of the quartermaster and the commissary. There was at all times plenty of tentage and plenty of food packed away in the holds of the transports lying idly off the shores of Siboney."

And so, for blunders and inefficiency for which there was no excuse, brave men willing to sacrifice their lives suffered as they should not have done, in the camp and in the hospital, and, above all, in the transportation of the sick in vessels unfitted in every respect, especially in food and medical care.

We say there was no excuse for this failure in hospital supplies and facilities for hospital treatment in camp and ship, for we had the example of England, who during the Egyptian campaign was taught the same lesson under similar circumstances. Smarting under censure for what was not their fault, the British medical officers extorted from the government the consolidation of the Royal Army Medical Corps. This corps is independent of every other department, officered and disciplined by themselves, with complete control of their own transport and commissariat. If such an organization in our war with Spain had existed, fully trained in every department, as it would have been, can anyone believe we should have been called upon to lament such a miserable failure, such a disgraceful breakdown in the transportation and care of the sick, as we are compelled to record? It will be the fault of the medical profession if it does not demand and obtain from the government in the reorganization of the army, which the new condition of our nation will render absolutely necessary, a similar department to that of the British Medical Corps. Held strictly responsible for its work, there could be no shifting the blame, if any should occur, to other shoulders, but the medical department would stand or fall by its own record.

THE NEW PULMONARY SURGERY.

SOME months ago we found occasion to notice an imputation of timidity or indifference which had been cast upon the American profession because of its presumed attitude towards thoracic surgery. The reproach seems to be already passing away. According to the special correspondent of an Atlanta contemporary, "the sensation, if it may be so called, of the recent meeting of the American Medical Association was Dr. Murphy's address on Surgery," the leading points of which were as follows:

"How is tuberculosis of the lungs cured? We can make an incision, and remove it as we do a finger. The only question is how much of the lung can be removed? It has been demonstrated pathologically that we can live comfortably with one lung, and sometimes even much less. Patients have existed long after one entire lung has been disqualified for respiration. We have a respiratory surface of 90 square meters, and we can readily dispose of more than half of that amount. That has been proved. In many cases the loss has been a gradual one. The question now is, can we dispose of that suddenly? We can. By respiratory exchange we can do with one lung, as the surplus of respiratory surface is ten times greater than needed in ordinary life.

"Nature's method of curing tuberculosis of the lung must be studied. The cure is wrought by a deposit of connective tissue around the focus of infection.

"Anything that will favor the deposit of connective tissue around the destroyer will cure the disease. In kindred cases—for instance, tuberculosis of the knee—we set at rest the tissues so afflicted. With rest, new tissue is formed, and the diseased germs enclosed in a case from which they cannot escape. We utilize the life of the healthy tissue to repair the destruction of the disease. While the knee is at rest, the tissue forms more rapidly, and gradually the diseased part is made by nature to disappear. Subjects in the dead-house will prove that this theory hold good in the lungs where tubercular germs have begun an attack. Autopsies have revealed numberless persons whose lungs were once affected by the bacillus, but nature has cured her ailments alone.

"We must treat the lungs as we treat tuberculosis in other parts of the body. The lung has the greatest capacity of repairing tissue. How, therefore, with such facts known, can we assist the lung in its efforts to encapsulate? We must put it in a condition to build up a coffer dam around the diseased part. That is accomplished in three ways. First, by removing the ribs and allowing a contraction of the chest over the diseased part; second, by opening the chest wall and rendering aid by direct injection into the pleural cavity. We inject into that cavity some substance not poisonous that will remain for a long

time, some substance not easily absorbed. The third method is by opening and allowing the chest wall to sink over the tubercular cavity. I have operated by the latter method and found that the cavity was in time obliterated.

"The method by the admission of air has the same curative effect as allowing the collapse of the wall. The injection of a gas or fluid into the pleural cavity, nitrogen gas preferred, is the ideal treatment for tuberculosis of the lungs. The gas being very slowly absorbed may be allowed to remain for months without injury to the patient until the disease is cured.

"The curative effects of the operation are most apparent. After the injection of the nitrogen gas, the patient suffered a slight dyspnea, but immediately upon leaving the table remarked that he felt better than he had for months. He refused to take to bed. On the first night after the operation he was able to sleep well, which he had not done before for months. That irritating and annoying cough, prevalent among consumptives, is undoubtedly relieved by the injection of the gas into the pleural cavity. In some experiments the cough has entirely disappeared. With the operation, which is a simple one, there is no pain and no discomfort. There is no difficulty in executing the operation, and no greater risk than the average surgeon encounters in ordinary cases. It may be said that there is a possibility that the air will not enter the pleural cavity where there are adhesions. These adhesions can easily be removed. With this method of treatment one may attack the disease in its earliest stages, when the patient enjoys fairly robust health and will not be endangered by any shock that may occur."

In concluding his remarks Dr. Murphy dwelt upon the dangers arising from the operation of injecting the gas and thus suspending the work of the lung for a period. He acknowledged that there was danger of the injection of air into a vein, but offered arguments to prove that the danger is trivial. He also answered the alleged dangers of tubercular cavities rupturing into the pleura, other infections of the pleura, too great displacement of the diaphragm, and collapse.

Owing to the limited time at his disposal, the speaker, we are told, was unable to give many of the important details of the proposed operation for the cure of consumption, and possibly for that reason his paper was misunderstood by many. But, beyond a doubt, it sufficed to show conclusively that the greatest enemy of human life is soon to be met, and possibly conquered, by a method of scientific warfare till very lately undreamed of in this connection.

THE PATENT ON ANTITOXIN.

THE intelligence that Dr. Emil Behring has been granted a patent by the United States for diphtheria antitoxin will be received by the medical profession everywhere with mingled feelings of astonishment and disgust. They will find it hard to believe that such a man as the Berlin professor, until now honored throughout the world for his share in what is widely regarded as one of the most beneficent victories of our art, can thus have lowered himself to the level of the blatant charlatan and the grasping commercialist. Yet the statement is undoubtedly correct—for the patent, it should be observed, was issued to Behring himself, not, as some journals have announced, to the German manufacturers of his brand of antitoxin. The professor claims as his inventions, first, the process of producing antitoxin, as described; second, diphtheria antitoxin itself as a new substance. Now, there is no need of our taking up space by detailing facts and citing authorities in refutation of these claims. Every physician of average intelligence is sufficiently acquainted with the history of serumtherapy since the foundation of the immunization theory was laid by Pasteur, to understand at once that such exclusive pretensions on the part of any single investigator in this department must be not only utterly unjustified, but ethically reprehensible to the last degree. Indeed, the claim in question is justly characterized by a contemporary, as "an offense against common morality." What medical hero has ever lived who would not have been hurled from his pedestal of fame the moment such a charge could have been proved against him? Can we even imagine Jenner patenting vaccination, or Lister patenting antisepsis? The mere unconfirmed supposition that the man who actually gave surgical anesthesia to the world had sought to profit in this way by his achievement, lost him ultimately the undisputed place he would otherwise have held in universal estimation, as well as the greater part of his pecuniary reward.

The most surprising and mortifying features of the present case are, that no such attempt to monopolize the production of an article like diphtheria antitoxin would be tolerated for a moment by any enlightened government except our own, and that even the patent we are considering was only issued after the lapse of three years, and after five distinct refusals, on "the sole and avowed consideration that Behring's work had helped to reduce the diphtheria mortality!" If the credit for this alleged result belongs to Behring alone, how is it that the French Academy of

Sciences, whose impartiality is unquestioned, awarded its prize for antitoxin *jointly to Behring and Roux?* This one fact should have deterred the Washington Court of Appeals from pronouncing its preposterous decision. But we feel no apprehension that it will be upheld by any higher tribunal. One at least of our home manufacturers of antitoxin proposes to fight the renegade scientist and his mercenary partners to the bitter end. We refer to Messrs. Parke, Davis & Co., who have pledged themselves meantime to protect and defend all vendors and purchasers of their serum from any legal proceedings that may be brought against them in the matter, they (the firm) assuming the entire cost of such defense.

SEXUAL ORIGIN OF NEURASTHENIA AND PSYCHONEUROSIS.

SIGMUND FREUD announced a while ago (*Wien. Klin. Woch.*, Nos. 2, 4, 5 and 7) that every case of psychoneurosis, fixed ideas, etc., had for its predisposing cause some abnormal occurrence in the sexual life before the age of eight years, consciously or unconsciously remembered. He now asserts that every case of neurasthenia has a similar basis, some abnormal occurrence or occurrences in the sexual life of the patient at the present time or since puberty. He scouts the idea that mental overwork or excess of household cares can alone induce neurasthenia, although any depressing factor may favor its development. He even insists that absorbing occupations, especially intellectual, protect against the evolution of neurasthenic affections. He divides them into: 1. Neurasthenia proper, which he claims can always be traced to excessive masturbation, unnatural sexual intercourse, etc. 2. "Anxiety neurasthenia," distinguished by dread, restlessness, agoraphobia, vertigo in walking, sleeplessness, etc.; this form he states can also invariably be traced to sexual influences in the nature of unsatisfied impulses, coitus interruptus, abstinence with inflamed desires, etc. He protests against the prevailing hypocrisy in regard to sexual matters, and urges the physician to assume an abnormal sexual life as his guiding star in the etiology of neurasthenia, as this alone will help him to treat it rationally, after winning his patient's confidence. In cases absolutely impossible to trace to any abnormal sexual occurrences, he decides that the affection is not neurasthenia, and by eliminating this conception he has discovered unsuspected local affections, in one instance a latent suppuration in one of the accessory nasal cavities, which had only produced neurasthenic symptoms, entirely cured by an operation.

TRACTION OF THE TONGUE IN APPARENT DROWNING.

A REPORT was recently published in *La Tribune Medicale* (*Brit. Med. Jour.*, Jan. 29), which appears to illustrate the value of traction of the tongue in the restoration of the apparently drowned. A boy fell into one of the docks at Havre, and was not recovered till he had been immersed fully five minutes. He was quite unconscious when brought to land, but a custom-house officer at once proceeded to perform artificial respiration by Laborde's method (rhythmic traction on the tongue), while other attendants rubbed him vigorously and blew air into his mouth. In half an hour signs of life reappeared in the form of respiration and a few moans. He was quite two hours longer before completely recovered. Our contemporary considers that the fortunate result was mainly due to the tractions on the tongue, and with Dr. Gilchrist of Nice, who has called our attention to the report, suggests that it should be made widely known through the lay press that traction on the tongue, repeated regularly 15 times a minute, is a highly efficacious treatment in many cases of apparent death from asphyxia.

IMMUNITY TO THE STING OF BEES.

DR. LANGER, of Ruscowan, in Bohemia, stated at the Congress of German Naturalists and Physicians that he found that the majority of the bee-keepers in that district acquired a complete immunity to the stings of those insects, while some seemed to have enjoyed that immunity from the first, possibly by inheritance from immunized fathers. Of 153 whom he had questioned, 9 had always been insusceptible, 118 had acquired immunity, and 26 had not. So complete was it in some cases, that men, when intoxicated, had been stung in 50 to 100 places with less suffering than is felt by most persons from flea-bites. The poison he finds to be an animal alkaloid, and not, as is commonly believed, a formic acid, and the best treatment a subcutaneous injection of a 2 to 5 per cent. solution of potassium permanganate, since the poison is destroyed by this salt in the proportion of 1 in 20.

AUSCULTATION OF THE MOUTH.

PROF. GALVAGNI (*Gazz. Degli Osp. e Delle Clin.*, Dec. 5, 1897) calls attention to the valuable information to be derived by auscultation of the mouth in regard to incipient tuberculosis, etc. The rales are reflected from the bucco-pharyngeal cavity as from a sounding-board. He also notes a peculiar jerky, glottic sound, not in the inspiration, but commencing in the pause,

attaining its height about the middle of expiration, diminishing and vanishing completely at the commencement of the inspiration. It coincides with the rhythm of the pulse, and has been noticed in several tuberculous patients, and in one case of gastralgia of uterine origin.

CHLOROFORM ANESTHESIA BY GASLIGHT.

AN unusual accident recently happened in the Catholic Hospital at Herne, in Westphalia. A man who was shot in the abdomen was brought to the hospital at night and immediately operated upon by gaslight. The operation was very difficult, and the chloroform narcosis was kept up for four hours. As a result of the decomposition of the chloroform by the gaslight, producing powerful chlorinated vapors, two of the surgeons and several of the Sisters of Mercy were overcome, and one of the latter has since died.

DR. WILLIAM M. GRAY, the microscopist of the Medical Museum at Washington, was detailed by that institution for surgical work in the war, with special reference to the diagnosis of gunshot wounds by the Roentgen rays. In giving the results of his observations Dr. Gray says:

"One thing this war has taught is that the probe in all its forms has gone out of use. No more searching blindly in a man's body for the bullet; no more danger of blood poisoning from the introduction into the wound of instruments of search. The fluoroscope tells us instantly where the projectile has imbedded itself, and we have only to cut it out as if it were there before our eyes. The ingenious electric probe and all similar devices have seen their day. In all future battles experts in skiagraphy will be attached of necessity to the Medical Corps, and the work of the surgeons will be materially assisted by their precise indications. We took out bullets by the pint on board the Relief, and almost without exception they were located by the X-rays.

"It is all done in a few moments; five seconds for a wound in the hand, thirty seconds for one in the foot, and not over ten or fifteen minutes for a wound through the thick pelvis. The patient is stretched out on a table, the X-ray bulb adjusted over the wound, the plate put under the limb or part where the wound is, and the thing is done. The plates are developed almost instantly. In many cases we save hours of vain searching; not infrequently we save the soldier's life."

Chloroform was used as an anesthetic in all cases with but very few exceptions, it being considered, on account of its more rapid action and its greater freedom from gastric disturbance, preferable to ether. There were no deaths from anesthesia. The female nurses, in hospital work, were considered preferable to the male, as the wounded and the sick can get no care like that which women give. But the doctors are equally positive that women are out of place on the battlefield. We are glad to record the statement of both Dr. Gray and Dr. Senn, that the Spaniards never purposely fired on the Red Cross representatives of our country, and if any of these were injured it was entirely due to the fact that the red badge of the order could not easily be distinguished at a distance.

IT has been shown by recent experiments that the power of germination with plant seeds is not destroyed, but only suspended, by extreme cold. It is impossible to produce any more intense cold than that obtained from liquid air. Seeds of barley, squash, cucumbers, peas, sunflower and some other plants have been kept in liquid air 110 hours. When taken out and carefully and slowly thawed for 50 hours, and planted, they have sprouted as well as if they had never been frozen. Life had merely been suspended suddenly, locked up within its material investment before there could be a possibility of the least entrance of decomposition. If this is the result of the intense action of cold upon plants, the question would naturally arise, why might not the same action be produced in subjecting the living organism to a similar test? This would be a new form of reincarnation, if it could be so called, in which the soul never left the body, but was held in the icy fetters of a seeming death, from which after a longer or shorter sleep and entire unconsciousness it awakens to active life, not in a new body, to creep along the slow development of a new life, but in the old body in which, though perhaps years may have elapsed, vitality keeps right on in the old track as if it had never been suspended.

THE attention of the religious public has recently been called, with some measure of justice, to the danger of infection from the communion cup, as it is passed from one person to another in the administration of the sacrament. In many churches the danger has been considered so serious that steps have been taken to prevent the evil. The Catholic Church, notwithstanding it is free from all danger from this source, is still exposed to one not less objectionable. In a recent number of *La Science Medicale* we find the results of researches made by Dr. L. Vincinci on bacilli in holy water, which he found to be swarm-

ing with a large amount of noxious bacteria, the most frequent of which were diphtheria and tuberculosis. It is quite common for the devout Catholic, after dipping the finger in holy water, to touch it to the lips or even the eyes. In this way, if the system is in a condition to receive the poison from the lack of vital force, which is so often the case among the poor, the vessel containing the holy water may prove to be a storehouse for the seeds of the most fatal disease.

THE subject of reciprocity of licensure in State examinations is being thoroughly discussed and we hope soon may be accomplished. Dr. W. W. Potter of Buffalo, who should have the credit of doing much in this direction, says "the pathway to reciprocity consists in establishing not only uniformity of methods of teaching, but similarity in systems of examination by the several States."

It certainly seems as if common grounds of action ought to be found, and reciprocity established between certain of the States at once.

IT is said that the American Medical Association Sessions are managed by medical politicians who come there with everything cut and dried for the election of officers. They seem to be a distinct sect, who attend but for one purpose, and come from the Southwest. This is about as it is in all bodies of this kind, and it is the reason why many of us prefer to stay away or decline to join such associations. The politician is the enemy of civilization and of human progress, and the world would be better if he did not exist at all. Strike him down!

KOCH says the native Africans never have malaria, and their exemption is due to hereditary immunity, but when he says persons who have suffered from an attack of malarial fever and have recovered without quinine have acquired immunity, he evidently does not know what he is talking about.

A RECENT case of carbolic acid poisoning which proved fatal in this city calls to mind the usefulness of vinegar. This remedy should not be forgotten in such emergency.

One of the most amusing of the imaginary stories of premature interment is the following: The wife of an Irishman was supposed to be dead, and as she was being borne to the grave at a very rough part of the road one of the bearers stumbled, the coffin fell, burst open, and the supposed corpse revived. She lived ten years after that, and again was believed to be dead. Again the funeral *cortege* started, but this time on reaching the dangerous spot an accident was avoided, the husband calling out in anxious tones, "Steady, boys, there; go aisy."

BIBLIOGRAPHICAL.

A HISTORY OF YELLOW FEVER; ITS ORIGIN AND CAUSE, with an Addendum on its Twin Sister, Dengue; Containing a Parallel Table of the most Prominent Symptoms of Each Disease. By W. S. Coleman, M.D. The Clinic Publishing Co., Chicago. $1, cloth. 50 cents, paper.

Dr. Coleman has given in this small volume a *resume* of facts collected during forty years of active practice in the South, in which time he passed through several epidemics of the disease. Dr. Coleman subscribes to the theory of Dr. Andonard, made while investigating the epidemic in Spain in 1821-23, that the specific infection which caused yellow fever issued from the holds of the slave ships, having been generated by the fermentation of the dysenteric discharges and other filth accumulating from the negroes during the voyage from Africa. The work is in every way in style and matter a scholarly production, containing a clearer insight into the cause and spread of yellow fever, and the steps necessary to banish it from the West Indian Islands from which it has been transmitted to our own shores, than anything we have seen.

THE AMERICAN ECLECTIC MATERIA MEDICA AND THERAPEUTICS. By John M. Scudder, M.D. Twelfth Edition. The Scudder Bros. Co., Cincinnati.

Part I. is devoted to general therapeutics, in which is discussed methods of cure, disease, law in medicine, the action of medicine upon the system and their preparation. Part II. discusses the action of specific remedies in diseases. In the preface the author says: "It is wonderful what a mass of material the fathers have gathered together from which three-fourths of modern homeopathy and nine-tenths of modern eclecticism have been derived. The small doses of pleasant medicine for direct effect marks the evolution of medicine to a more rational ground."

LECTURES ON TUMORS. By John B. Hamilton, M.D., LL.D. Third edition. P. Blakiston Sons, 1898.

This excellent treatise on tumors is made still more acceptable to the public, by containing the latest information upon the subjects discussed.

A MANUAL OF MEDICAL JURISPRUDENCE. By Alfred Swayne Taylor, M.D., F.R.S. Twefth American from the Twelfth English Edition. Edited by Clark Bell, Esq., LL.D. Lea Bros. & Co.

Taylor's "Medical Jurisprudence" has long been a standard work for the physician and the lawyer. For a generation it has been a favorite text-book in nearly all of our medical and law schools and a standard authority in our courts of law. The very thorough revision of the work in this edition brings it fully up to the times and enables it to still maintain a high standing in the field of medical jurisprudence.

INTERNATIONAL CLINICS, Vol. II., 1898.

The issue for July of this valuable quarterly volume of 350 pages is unusually rich in essays of not only a scientific but a thorough practical character. Almost every department of medicine is included in the range of subjects discussed.

A SYSTEM OF PRACTICAL MEDICINE. By American Authors. Edited by Alfred Lee Loomis, M.D., LL.D., and William Gilman Thompson, M.D. Vol. IV. Illustrated. Lea Bros. & Co., Philadelphia, 1898.

The fourth volume of this elaborate and admirable work opens with a discussion of the diseases of the nervous system, which fill 900 of the 1082 pages of the work The diseases of Part I. include: Diseases of the peripheral nerves; Diseases of the spinal cord; diseases of the medulla and pons; diseases of the brain; functional nervous diseases vasomotor and trophic disorders; disorders of the mind. All of these subjects are discussed with marked clearness by some of the ablest alienists of the profession. The last 200 pages are devoted to discussion by Prof. Finley A. Jacobi, W. Gilman Thompson and Warren Coleman on Thomson's disease, osteomalacia, rhachitis, rheumatism, gonorrheal arthritis, gout, lithemia, obesity, scurvy and Ad-

dison's disease. This work has a special value from the fact that the articles are prepared by American physicians and is therefore peculiary adapted to the profession in this country.

ON CARDIAC FAILURE AND ITS TREATMENT: with Especial Reference to the Use of Baths and Exercises. By Alexander Morrison, M.D., F.R.C.P.E.D. London: The Rebman Publishing Co.

The attention of the profession has been widely directed during the past few years to the beneficial effect of well directed exercise and baths in the treatment of cardiac failure arising from a variety of causes. The writer discusses this question with marked intelligence pointing out with scientific accuracy the indications for and the character of the treatment to produce the desired effect. Not the least valuable part of the work is a portion detailing the Nauheim baths and exercises, which are now so popular in this country.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. Third Edition, Revised, Rewritten, and Greatly Enlarged. By G. Betton Massey, M.D., Physician to the Gynecic Department of Howard Hospital, Philadelphia; Late Electro-Therapeutist to the Infirmary for Nervous Diseases, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association of the Societe Francaise d'Electrotherapie, of the American Medical Association, etc. Illustrated with Twelve Full-Page Original Chromo-lithographic Plates in Twelve Colors; Numerous Full Page Original Half-Tone Plates of Photographs taken from Nature, and many other Engravings in the Text. Royal Octavo. 400 pages. Extra Cloth, Beveled Edges, $3.50 net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia; 117 West Forty-second street, New York City, 9 Lakeside Building, 218-220 South Clark street, Chicago, Ill.

The author in the third edition of this work has enlarged its scope from the treatment of fibro tumors by electricity to the therapeutic use of this agent in the treatment of medical and surgical diseases of women. The work is valuable, not only as an intelligent treatise on gynecology but looking at it from a broader standpoint than is usually occupied by the majority of gynecologists, who are apt to look at the subject solely from a mechanical point of view. The use of electricity as a therapeutic agent in female diseases is a strong point in the author's work.

WESEN, URSACHE UND BEHANDLUNG DER ZUCKERKRANKHEIT (DIABETES MELLITUS). Von Dr. Albert Lenne, in Bad Neuenahr. 1551 pp. Berlin, 1898. Verlag von S. Karger, Karlstrasse, 15, Berlin. Bound in paper. Price, 4.60 Mks.

This monograph on diabetes mellitus is tolerably thorough and practical, though in general he deviates in many particulars from the general views of the Germans on this disease. The normal metabolic changes are presented and discussed with the essentials of diabetes itself. Then follows the body of the work, which is taken up with the symptoms, complications and the cause, or rather as it should be said, the causes, of this disease. The prognosis, course and diagnosis are discussed in one chapter. The last chapter, devoted to the treatment, is quite strong, filling some 62 pages. Occupying himself, as the author has done with this affection, he is bound to have drawn many conclusions which will be of value to practitioners. As to operative measures in diabetics he offers one paragraph of some length. He advises here, as an anesthetic, ether, though Roswell Park in his work on surgery warns against the dangers of a fatal coma supervening after this anesthetic; chloroform anesthesia he looks on as a very doubtful experiment, though some writers have recommended its use in diabetics as an anesthetic. I know of a case where it was employed in an operation for diabetic gangrene of the foot and the patient nearly expired from heart exhaustion. Only active measures, artificial respiration and amyl nitrite saved her.

The work contains many useful hints, as for example, recipes for preparing different articles of food. It reads easily. F. H. P.

UEBER DIE FACTOREN DER WIDERSTANDSKRAFT UND DIE VORHERSAGE DER LEBENSDAUER BEIM GESUNDEN MENSCHEN. Von Dr. A. Haegler, Chefarzt der Basler Lebens-versicherungsgesellschaft. Mit 2 Kurventafeln. Basel, Benno Schwabe, Verlagsbuchhandlung, 1898. 107 pp. Paper. Price, 2.40 Mks.

An able work by a man of long experience in life insurance work, with numerous observations from life insurance work and private practice. Intended at first only as a series of lectures before the Medical Society of Basle, it gradually assumed book-form, until it reached this shape. Studying first the questions of vital resistance in general, with hereditary defects, he peers into the influence of age, sex, social conditions and heredity in general and in particular. The inheritance of tuberculosis, cancer, etc., are discussed. The constitution, weight, height, appearance, the color of hair and skin as well as the appearance of the teeth are presented. The heart's energy, residence, climate, occupation and profession, where statistics are notoriously unreliable, the influence of wealth, a mighty factor, and the methods of living are all fully studied. Last but not least, the effects of the nervous system and psychic factors fill the final chapter. The influence of the psyche on the body, that of the will, the tasks of life, overwork, the higher aims and stimuli of one life's work, the intensity and dangers of life, terminate the work. One very important feature which he has left undiscussed is the condition of the arteries and the kidneys, two very important things in prognosticating the life of an individual, at least, in America. The work is very scholarly, thorough and marked on every page by the results of experience. F. H. P.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF KIEW.

Diseases of the Genito-Urinary Organs Cause Profound Troubles of the Organism—M. Gourine.—The multiplicity of troubles occasioned by blennorrhagia is well known. Gonococcy is not only a local disease of the mucous membranes, but is rather a general malady, which attacks the organs of the pelvis and also all other organs of the organism, the systems lymphatic, vascular, nervous, central and peripheral, osseous, muscular, digestive, etc. Blennorrhagia, in view of the variability of its localizations, resembles syphilis. It may be hereditary too, and is transmissible from generation to generation, principally by contact with the maternal vaginal excretion.

Acute Infectious Ascending Myelilis.—M. M. Buzzard and Russell reported a case of a man of thirty-six years, who had died of meningo-myelitis, with autopsy. Was taken with weakness of lower limbs, and in three weeks paraplegia was complete, with incontinence of urine. Paralysis invaded the trunk progressively, then the upper limbs and muscles of deglutition. Had contracted syphilis one year, and gonorrhea six months before entering the hospital. Clinical examination showed flaccid paraplegia, complete with paralysis of abdominal and thoracic muscles, weakness of hands, flexion of wrists, head slightly turned to right, left pupil contracted and insensible to light, right pupil dilated and movable bottom, of eye normal. Anesthesia and analgesia up to first intercostal space and extended to internal face of two arms to apophysis of ulna, patellar reflex abolished, same with cutaneous reflexes, except dartos, constipation, with incontinence of urine. Paralytic symptoms extended and aggravated rapidly, hiccough, ventral ballooning and incontinence of fecal matter. Respiration entirely diaphragmatic, more and more feeble, with cyanosis and pulmonary oedema; patient succumbed. Friction with mercurial preparations and by subcutaneous injections, iodide potass. in large doses, and injections of strychnine. At the autopsy meningo-myelitis was found especially marked in the lumbo-sacral region, but extending to the whole medullar base of the brain and lower portions of the convexity of the two hemispheres; medulla softened with numerous bloody extravasations. Histological examination showed, contrary to what observation with the naked eye seemed to indicate, that the medullary lesions were more marked in the cervical than the lumbar region. Diplococci in the meningeal and medullary substance;

pure cultures obtained, virulent to mice and cocks, which were killed in twenty-four hours; differed in some respects from diplococcus of Weichselbaum, and that found by Still in the posterior basial meningitis of children. This was an instance of acute ascending myelitis and not the paralysis of Landry. In this last affection the sensibility, when affected at all, is so in a feeble degree. The patient of M.M. Buzzard and Russell presented, on the contrary, complete and extensive analgesia and anesthesia. There was, besides, paralysis of the sphincters, and bedsores, which are not found in Landry's paralysis. M.M. B. and R. think the affection was due to an infectious agent, and the presence of diplococci was not accidental but intimately associated with the etiology and pathology of meningo-encephalitis. M. Spencer desired to know if a bacteriological examination of the urethra had been made. In a case of gonorrhea recently observed he had found gonococci in the urethra, the articulations and upon the conjunctiva, and it would be interesting to know the entering point of the infectious agent. M. Russell did not examine the urethra; the existence of a previous gonorrhea was not known until later. The diplococcus was of small dimensions, very different from that found by Still in infantile posterior basial meningitis, and by Mott in infectious multiple neuritis; it rather resembled the diplococcus of Weichselbaum.

Extract of Suprarenal Capsules and Its Action on the Animal Organism.—M. Mankowsky, by a series of experiments, demonstrates this important fact, that the active principle which augments notably the blood pressure is only found in the suprarenal capsules, and in no other organ of the economy, viz., the liver, kidneys, pancreas, lungs, spleen, parotids, lymphatic glands, brain, thyroid body, cardiac muscles, muscles of the trunk, ovaries and testicles. The following experiments establish surely that the theory of the identity of brenzkatechine and its isomeric associations with stimuline, which are found in the suprarenal capsules, is absolutely false. M. Mankowsy has investigated also the action upon blood pressure of lecithine and neurine introduced into the blood, and he is convinced that these substances, as respects their action upon the organism, have nothing in common with the stimuline of the suprarenal capsules. In explaining his conclusions as to the action of the extract of the suprarenal capsules upon the animal organism, he proves experimentally that the increase of blood pressure under the influence of the extract is produced by an excitation of the peripheral vaso-motor system, and is indispensable to the modifications produced simultaneously in cardiac activity. As respects the action of the extract upon the heart, this remains to be proved beyond a question. Does it act upon the cardiac muscles or, on the contrary, upon the nerves of the heart? Profound experimental study of this question should be the object, of special work, because the statements made in medical litearture do not settle this very important subject. (Gottlieb. Velich.)

Pederasty Among the Cockchafers—"Hannetons."—M. Fere.—The fact of union between males among insects, particularly the cockchafers—"hannetons,"—is well known. M. Laboulbene has shown that in these cases the penis of the insect that plays the role of the male is introduced not into the anus of the one that personates the female, as might be supposed, but rather into the penal sheath of the latter, whose penis is folded back to the bottom of this sheath. It would logically be supposed that these facts of pederasty would be effected in the absence of the females, but such is not the fact. A number of male cockchafers, when deprived for a long time of the females, may be shut up together and nothing anomalous will occur. It is necessary that there shall be some females among them, and the act and fact of pederasty is thus explained. A male cockchafer never has a coitus with another male, unless the latter has previously been connected with a female, and the genital organs are impregnated with the odor from the female genital organs; it is the odor alone that excites the male "hanneton" to coitus. This is not pederasty pure, but rather an error of sex; it explains, too, the possibility of coitus in the penal sheath. After coitus the penis is retracted and folded back; not so at other times; without this, union between the males would be impossible.

ACADEMY OF SCIENCES.

Appearance in Sanguineous Serum, Under the Influence of Chemical Products, of a Matter Capable of Agglutinating the Bacillus of True Tuberculosis.—M. Arloing has succeeded in obtaining in bouillon homogeneous cultures of tuberculosis, cultures in which the microbe clouds the bouillon instead of forming a film upon the surface. He finds that the blood of the goat, previously inoculated with tuberculine, possesses agglutinative properties with the microbe in a homogeneous emulsion. He has obtained similar results with the blood of the goat, which had received injections of eucalyptol creosote, or the liquor of Miable (corros. sublim.). During reaction of the organism these four chemical substances produce the appearance of the agglutinative matter in the blood. These interesting phenomena corroborate the experiments of Phisalix, who was the first to show that chemical substances, such as cholesterine, tyrosine, glycocholate of soda, possess inoculable properties against snake poison identical with those of the poison itself modified by heat or inoculated in small doses.

A New Anesthesic—Orthoform—Two German Experimenters.—MM. Einhorn and Heinz have just discovered a new anesthetic agent, to which they give the name of orthoform. This substance belongs to the chemical group of aromatic amido ethers; it is exactly "p-amido-m-oxy-benzomethylic ether." It consists of a white, crystalline, light powder; tasteless and odorless; is of feeble solubility; action slow, but as a compensation, its effect is durable. Orthoform produces soluble salts with acids, which also possess anesthetic properties, but they are acids, and therefore cannot be used upon mucous surfaces, to which they would be irritating. Applied to the surface of a wound, or an irritated mucous membrane, orthoform, in powder or pomade, renders them insensible. This has been clearly proved by experiments upon numerous patients. In burns particularly, which, as we know, are painful, orthoform stops the most violent pains in a few moments, and the relief lasts for many hours. As it is not toxic, rabbits and dogs absorb from two to six grams daily. A new application may be made as soon as the anaesthetic effects subside, and this tolerance of the organism is most desirable, for example, in a case of cancerous ulcer of the face, in which the pains are so atrocious as to render sleep impossible. The ulcer should be powdered for a week, and the quantity applied should be 50 grams; the patient ceases to suffer, and no inconvenience follows the application. For cancer of the stomach many doses of a gram are given daily by MM. Einham and Heinz. In all cases of wounds or ulcerations of the skin or mucous membranes, it is strongly antiseptic, and hastens the cure of microbic wounds. It has no action upon the intact skin, but is powerfully anesthetic when used surgically upon the mucous membranes.

Urinary Phosphosis.—M. Jolly—In consequence of the researches of M.M. Lepine and Aubert, it is admitted that there is in normal urine a small quantity of phosphorus incompletely oxidated, the proportion of which is notably increased in certain nervous conditions. Numerous practical analyses have shown that in neuropaths, in many diatheses, and even in healthy subjects, after a copious meal, there is often in the urine a large proportion of undetermined azote matter, and the urinary phosphorus which escapes the methods of dosing by phosphoric acid is neither imperfectly oxydated phosphorus nor phosphoglyceric acid, but simply phosphoric acid combined with metallic bases, and intimately associated with azote matter. In support of this hypothesis may be cited the experiments of Wurtz upon the preparation of the albumen of the fresh egg and those of Henninger upon the purification of peptones, experiments from which it results that it is nearly impossible to cause every trace of metallic phosphates to disappear from these products.

SURGICAL SOCIETY.

Inoperable Cancer of the Breast.—M. Guinard presented a patient affected with the above, from which the odor was so intolerable that it was necessary to make ten dressings daily. He employed the carbide of calcium and afterward it was only necessary to make dressings every fifth or sixth day. No odor nor hemorrhage.

Surgical Treatment of Pelvic Suppurations.—M. Lucas Championniere formerly practiced an incision over the internal iliac fossa, when the suppuration was latero-uterine, but of late has abandoned this method. As regards puncture of the "culs-de-sac," he disapproved of that, because it leaves in place the suppurating parts. The method of choice is laparotomy, which permits complete ablation. Drainage is not practiced, as it is considered to be more

dangerous than useful. But this method contraindicated when the pus tends to flow toward the "culs-de-sac." In such cases M. Championniere incises the latter freely, and is inclined to vaginal hysterectomy, which he performs secondarily if the incision is insufficient. In fine, the location of the suppuration must determine the location and method of the operation.

The Sign of Kernig in the Diagnosis of Meningitis.—M.M. Netter: Kernig, of St. Petersburg, has given a very valuable sign as a diagnosis of meningitis, but which has continued to be unappreciated by the majority of physicians, and not mentioned in authoritative works. In forty-six cases of meningitis investigated by myself, I have observed it in forty-one—a proportion of 90 per cent. It consists of the following: The patient should be examined successively in the dorsal decubitus and the sitting posture. In the first, it is very easy to extend the limbs completely, while in the second complete extension cannot be effected. There remains an angle of about 90 degrees in very marked cases, never more than 135 to 140 degrees. Complete extension becomes easy when the trunk of the patient is again inclined backwards. It is difficult to give an explanation to this fact, which is observed only in meningitis.

The Influence of Hepatic Colic upon Diabetic Glycosuria.—M.M. Gibert and E. Weil communicated observations of two diabetic women in whom, while under the influence of attacks of hepatic colic, the quantity of sugar diminished considerably, to resume the usual secretion after the cessation of the colic. The authors deduce from these facts that the attack has an inhibitory action upon the hepato-pancreatic centers which control glycosuria. This action resembles the numerous and sometimes contradictory phenomena produced by a lithiasic crisis, such as polyuria, slight glycosuria, etc. As the painful conditions generally tend to augment the excretion of sugar, M. Legendre asked whether the absence of alimentation, which is the rule in hepatic colic, might not be the producing cause in the cases reported by M.M. Gibert and Weil. M. Rendu said that all the painful peripheral irritations act in the production of glycosuria, either by diminishing or increasing it, and it is not possible to explain the mode of action.

BIOLOGICAL SOCIETY.

Neoplasms of the Prostate.—M.M. Albarran and Holle—Senile hypertrophy of the prostate is an essentially glandular lesion. Most generally it presents, for a long time, and even until death, the characters of benign adenomatous proliferation. In many cases it may be transformed into a malignant epithelial neoplasm, latent and imperceptible at first, to develop finally into confirmed cancer. Simple adenoma, cystic or fibrous, circumscribed adenoid epithelioma, epithelial infiltration in the storma, circumscribed intra-capsular areolar cancer, afterwards diffused, such are the different conditions of this evolution. We think that, in the future, methodical and prolonged clinical observation of prostatics and the close histological study of hypertrophied prostates will confirm these conclusions.

Treatment of Saturnine Colic by Subcutaneous Injections of Artificial Serum.--M. A. Delearde—Of nine patients observed in the medical clinical service of the Hospital Saint-Sauveur de Lille, eight were workers in white lead, and one plumber. All have worked for many months with lead, and some have had repeated attacks of saturnine colic, violent in five of them, with constipation accompanied with muscular pains and cephalalgia, vomiting and peripheral neuritis. The only treatment employed was an injection under the abdominal integument, at a single application, of 500 cubic centim. of artificial serum (Hayem's formula). This dose has always been sufficient to relieve the troubles above indicated, except in one especially grave case, in which it was necessary to inject one liter at an interval of two days. The serum has no effect on saturnine paralysis, it suppresses the muscular pains and constipation and the other additional symptoms, viz., vomiting and cephalagia. Every trial of the serum has succeeded, and in every case the patient has recovered more rapidly than by the old methods of treatment.

Treatment of Erectile Tumors by Coagulating Injections of Perchloride of Iron.—M. Theophile Auger—I employ for the treatment of erectile tumors injections of a dilute solution of the perchloride of iron, according to the following formula:

Sol. perchlorid of iron, 30 per cent.	25 gr.
Chlor. sod.	15 gr.
Water	60 gr.

For small tumors I use an ordinary small Pravaz syringe, and puncture the tumor with a single needle. If a drop of blood presents itself at the orifice of the needle, it is then certain that it is in an accumulation of blood in the tumor. Then inject a few drops of the solution. In a few months the tumor disappears, but if at the end of that time it reappears, renew the injection. No need for many of them. For angiomata of large volume, do not hesitate to inject 15, 20 or 40 drops of the above solution. One more active may also be employed, viz.:

Sol. perchloride of iron, 30 per cent.	20 gr.
Chlor. zinc	3 gr.
Water	60 gr.

Make injection slowly. In the very large angiomata compress sides of tumor.

The Motor Innervation of the Pyloric Region of the Stomach—M.M. Courtade and Guyon—Irritation of the pneumogastric determines active contractions, or at least exaggerates the peristaltic contractions already existing. Irritation of the great sympathetic, on the contrary, arrests them, and produces only a change of "tonus" in the muscular fibers, either more in the circular layer or less in the longitudinal layer. This action is peculiar to the great sympathetic, since it manifests itself, as we have succeeded in proving, through the whole length of the digestive tube, from the cardia to the anus.

Condition of Nerve Cells of the Medulla Spinalis in Man, from Autopsy.—(Method of Nissi.)—M.M. Philippe and Gothard: The radical nerve cells, when studied in their usual conditions by histological observation, are essentially polymorphous. Their size, prolongations, chromatic or achromatic substances, are all subject often to considerable variations. It is impossible to review all the degrees of this polymorphism. We will be satisfied to give the principal types which have been faithfully represented by figures designed from nature. In the adult or the old, in the lumbo-sacral or in the cervical medulla, the cell types in general correspond to the description given by Nissi of the cells of the rabbit and dog. A section containing thirty to sixty cells could scarcely exhibit an element that could be identified with the ideal cell reproduced by experimental researches and applied without discussion to man. In the adult the lumbo-sacral cells, nucleated, easily studied, are forty or fifty in number, in a transverse section of each half of the medulla. Distributed in the columns, especially the external and median, they are large, irregularly spherical, possess protoplasmic prolongations, ramifications, and can often be followed for a certain distance. The axis cylinder or axone is rarely met with.

MEDICAL SOCIETY OF THE HOSPITALS.

Inferior Radical Paralysis of the Trachial Plexus—Autopsy.—M. Apert—I present to the society specimens from an autopsy of a man who from infancy has been impotent in the use of his right arm. When four and a half years old he was struck by a heavy wagon, and so seriously wounded that he remained in bed for three years. For many years the head was turned to the right, the chin touching the shoulder. A physician had the hardihood to reduce it by force. When the patient recovered the right arm was atrophied, which increased to such a degree that anchlyosed to the neck. It was reduced to the condition of a crook deprived of motion. He used the left hand only, which he did very freely and skillfully, as an accountant and stenographer, besides attaining successfully a baccalaureate in science. In 1885 he was presented by M. Fereol to the Medical Society of the Hospitals, at which time he showed the symptoms observed thirteen years later. They consisted, first, of absolute atrophy of the muscles of the right upper extremity, comprising the pectoral and great dorsal, with the exception of the deltoid, the scapular biceps, brachialis anticus and the epicondylar muscles; second, ocular troubles, characterized by myosis, retraction of the palpebral border and diminution of pupillar reflex. Moreover, there was left hemianesthesia, dyschromatopsia, non-ocular polyopia, so that M. Fereol had discussed the diagnosis of hysterical paralysis with atrophy, before admitting, as he was justified in doing, the diagnosis of traumatic paralysis of the trachial plexus. In 1898, when the patient reached the "Hotel Dieu" in a condition of tuberculous cachexia, and the services of

Professor Dieulafoy, the hysterical troubles had disappeared, and the inferior radicular paralysis was fully established. A few days after admission he died, thirty-three years after the injury. Autopsy: All the muscles of the arm completely degenerated and transformed into a grayish fibroid tissue, with the exception of those supplied by the superior branches of the brachial plexus. Upon microscopic examination the nerves looked healthy, but on separating them and on transverse section of the two inferior branches of the plexus, and in the nerves springing from them a degeneracy of the nerve tubes was observed, and in many the sheaths were found to be empty. In the medulla the cells of the anterior cornua were diminished in number and volume from the first dorsal to the eighth cervical. Above the seventh cervical they had completely disappeared, and above and below this point the structure of the bulb and the protuberantia was normal, with no sclerosis nor degeneracy in the left cerebral hemisphere. The ascending frontal convolution was considerably diminished in size and length to the point of the union of its two superior thirds with its inferior—that is to say, the motor center of the upper extremity. Histological examination of the diminished portion showed no degenerative nor inflammatory lesion; it was simply an atrophy. To sum up, traumatic lesion of the inferior branches of the brachial plexus produced, first, paralysis of the type Dejerine-Klumpke, with characteristic ocular troubles and consecutive muscular atrophy; second, anatomically below the injury there was a Wallerian degeneration of the inferior branches of the plexus, of the nerves springing from them, and of the muscles innervated by them. Above the injury there was a simple atrophy of the corresponding centers of the medulla and brain. The centers not being developed by virtue of the biological law that "Function makes the organ." This is explained by the early period of youth at which the lesion occurred—four years and a half—and the long duration of time since its occurrence—thirty-three years.

SOCIETY OF HYPNOLOGY AND PSYCHOLOGY.

A Precursor of Lambroso in the Seventeenth Century.—M.M. Lemesle and Antonini.—We are indebted to Professor Mantovani, of Bergamo, for the discovery of a work signed by Samuel Fuchsius and dated 1615, which has every character of a scientific treatise, with portraits and engravings, and in support of theories of the author upon the symptomatic value of the forehead and the eyes in recognizing character and the intellectual and emotional qualities of man. The work is composed of thirty-four chapters, fifteen devoted to metoposcopy and nineteen to opthalmoscopy. "If many," says Fuchsius in his preface, "deplore the destiny of Cato and Cesar as victims of adversity, how much more rational would it be to find out, with a prescience almost divine, how much of criminality and how much of honesty each one has within himself." At the beginning of "Metoposcopy" again he says, "Restrain your voices, O mortals, behind the double ramparts of your teeth and your lips, lest by the way of your foreheads your secret thoughts shall appear from under the cloak of feigning." Fuchsius was firm in his convictions, and, like Lombroso, more modernly sustained them by ancient sculpture and the teachings of art in the study of anthropological characteristics. After a profound study of foreheads, he arrived at the conclusion just announced by Ferri, that the minimum frontal diameter is presented by great criminals, that abundant hair is a sign of degeneration, an affinity with madness and suicide, precocity of wrinkles in the degenerate, all of these are distinctly indicated by Fuchsius. Of opthalmoscopy, he studied the eyebrows very critically, the lids, pupils, pigmentary anomalies of the iris, insisted upon strabismus in criminals—Lobroso placed the mean at 10 per cent.—and marked particularly the identity of epilepsy and criminality.

SOCIETY OF NEUROPATHOLOGY AND PSYCHIATRY OF MOSCOW.

Therapeutic Experiences with Large Doses of Creosote in Pulmonary Tuberculosis.—M. Savoire—The favorable action of creosote in the treatment of pulmonary tuberculosis seems to be due, 1st, to the bactericidal action of the drug upon the microbes associated with Koch's bacillus, streptococci, pneumobacilli, etc.; 2d, to a stimulating action upon nutrition, producing an increase of phagocytosis, especially of Koch's bacillus; 3d, to a chemical action of the phenols that constitute the creosote upon the toxines of Koch's bacillus, neutralizing their toxine power. The patients to whom the creosote treatment especially applies are the non-cachetic tubercular, first and second degree, and the creosote is administered, 1st, by hypodermic injection, 10 to 40-100 of an oily solution of the creosote, 1-15 olive oil, with the addition or not of the balsams, myrtol, eucalyptol, etc.; 2d, continual inhalations of an alcoholic mixture of 6 to 10 grains, containing one-third of creosote; 3d, by the mouth a dilution in an oily liquid, in milk, or an emulsion in fractional doses, beginning with 40 drops and increasing to 300 drops in the 24 hours. We recommend the absolute avoidance of the administration of capsules, pills or powders of creosote, to which may be attributed the gastric accidents that are generally imputed to creosote. This substance should be taken in enough of liquid to prevent its caustic effects, and especially to avoid its corrosive mechanical irritation of the digestive mucous membrane.

Anchylosis of the Vertebral Column.—M. Chataloff—This is a very rare disease, only ten cases recorded by Bechterer, Popoff, Strumpell and Beinmler appear in literature. The principal symptom is more or less complete immobility, generally of the vertebral column, sometimes of the thoracic region alone. Anchylosis of the articulations of the lower limbs are often added to it. The column becomes cyphotic, especially in an isolated lesion of its thoracic portion. The thoracic framework becomes incurvated and immovable during respiration, which is abdominal, the lower part of the abdomen prominent. Another characteristic of the affection is the occurrence of pains, variable in intensity and location, increased by movement and disappearing during rest. These pains, seated in the back, cervical and thoracic regions, also in dorsal and lumbar, upper and lower limbs, are due to articular and periarticular lesions, and particularly to compression of the posterior nerve branches. The majority of patients show these symptoms of compression, with tonic trembling of certain muscular groups, sensations of constriction, hyperestesia and parestesia, exaggeration and dimunition of reflexes, muscular atrophy and diminution of electric excitability. The disease is essentially chronic. In a certain number of cases signs of degeneracy, of congenital malformations and asymmetry are found. Perhaps the affection is due to early and abnormal sclerosis of the ligaments and ossification of the articular cartilages.

Pathological Anatomy of Glioma.—M.M. Pribitkoff and Zwanoff.—A patient of 43 years had all the symptoms of tabes, of six years standing. After a month the fever supervened with albuminuria, pyuria and death. Autopsy revealed sclerosis of posterior cords of the medulla, glioma of cervical portion of medulla and hydrocephalus of cerebral ventricles. Microscopy showed, besides the usual modifications of tabes, the following phenomena: The glioma began at the first cervical vertebra and extended to the sixth. The cavity began at the same point, disappeared almost completely at the third vertebra, reappeared at its lower part and continued to the lower part of the sixth cervical. In the dorsal and lumbar portion of the medulla the central canal was simply dilated, but in the cervical portion the gliomatous cavity was confounded with the central canal, then followed its special course. In places the glioma occupied two-thirds of the gray substance. This case is interesting because of the coincidence in the same individual of tabes and syringomyelia. J. A. C.

DISCUSSION ON ABORTION BEFORE THE LOUISVILLE CLINICAL SOCIETY. *

Dr. W. C. Dugan: I was called this morning to see a case in consultation with a gentleman in the western part of the city. A young woman, twenty years of age, had been bleeding very actively from the uterus for the last four weeks. The doctor asked me to see the case with him, and come prepared to do a curettment. I found the young woman in good flesh, but rather anemic, as she had lost considerable blood. She was put upon the table and examined. I found the os soft and patulous, so that my finger could be introduced into the uterus, which was very large, and membranes protruded through the os. Of course I recognized immediately that an abortion had

* Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

caused the trouble. The young woman was growing worse from day to day. The doctor had been thrown entirely off his guard in the case, because of the standing of the family, etc., and had not suspected for a moment that the girl had been pregnant.

A criminal abortion had evidently been performed, and the question I desire to ask the society is, what should be done in a case of this kind. I went to see the patient, supposing it was a chronic case of endometritis. I believe we ought in some way to protect ourselves in a case of this character. Suppose the woman should die; being the picture of health an autopsy might be held; it would be shown that the other physician and myself visited the patient this morning and we would probably be accused of producing upon her a criminal abortion. I would like to know what action should be taken in such a case.

Dr. W. H. Wathen: This is a serious question to decide, and each case will have to be decided upon the conditions that exist and pertain to the particular case. Where there is danger of death from sepsis, or any other cause, I feel that the physician ought to protect himself by telling some one the nature of the case. He ought to do it in confidence, and if everything turns out right there will probably be no trouble resulting from it. But I do not believe any doctor is justified in taking the risk, subjecting himself to the danger of being reported as an abortionist, and probably written up in the papers or arrested as an abortionist to save the reputation of some woman who probably has not much reputation to save. I would not attend a case of this kind without telling somebody of its nature. We are constantly in danger of getting into trouble by being called to see patients upon whom others have performed abortions. And again women not infrequently, either purposely or through ignorance of what they are doing, deceive us, and we are apt to do something unless we are very guarded that will induce an abortion. I believe that Dr. Dugan and the physician who has attended the case are justified in telling the parents or nearest friends the nature of the girl's illness.

Dr. W. F. Boggess: General practitioners meet these cases often, not only where abortion has been criminally performed in a bungling way, but where it is done by the professional abortionist, and it is a question that makes the young practitioner's hair stand on end to know just what to do in such cases, and even should he decide to attempt their protection, there is always a certain odium in connection with the case should it terminate fatally.

I recall two cases of this kind, one was five years ago, the other more recently. Five years ago I remember to have been asked to see a case where a doctor was treating a young lady for typhoid fever. She had a septic fever, and in feeling over the abdomen I found no tenderness in the right iliac fossa, but there was exquisite tenderness over the uterus; there was also considerable tympany. I asked the mother to bring me a bowl of fresh water—simply an excuse to get her out of the room. I then said to the girl: "You have had an abortion. She said, "Yes, that is true; but do not tell my mother." When her mother came back in the room I told her all about it, and made the girl confess not only who had performed the abortion, but the author of the trouble, and the next day after that the girl died. Now, the question came up in mind, and I take it Dr. Dugan referred to the same question in reporting his case, Should the patient die, as happened in my case, ought we to report the occurrence to the authorities? I think not, simply because there is no law, it seems, in this State by which the abortionist can be convicted. There has been but one conviction that I can recall in this city within the past ten years, notwithstanding the fact that several parties have been before the courts at different times on this charge. It is almost impossible to secure a conviction, and even if the patient should die, I think it is best for the doctor not to say anything about it, and put the death down to sepsis or something else. There is nothing to gain by reporting it as death from criminal abortion, and we may get ourselves into trouble by so doing. We cannot do any damage to the abortionist; lawyers tell me that it is almost impossible to convict one of them. Even in those cases where legal protection has been in evidence, ante-mortem statements, etc., the criminal abortionist gets out on some technicality. If Dr. Dugan's patient should die, I believe he should tell all her friends. I think a doctor is criminal who allows the patient to die without informing the parents or nearest friends of the nature of the case.

Dr. W. H. Wathen: About fifteen years ago I was treating a woman, and did not know she was pregnant until about five o'clock one afternoon she came to my office bleeding profusely from the uterus and with symptoms of abortion. I gave her some morphine as quickly as possible, called a coupe and sent her home. I did not even know where she lived—in fact, she had given me as her address a place at which she did not live. I heard nothing more of the case until some hours afterward, when I was telephoned to come to a certain number on a certain street. There I found this woman in an abortion, suffering great pain. She was boarding with a widow, and knowing that the patient had just come from my office in a coupe, and that she was having an abortion, the widow immediately began to raise a terrific fuss, saying that I had brought disgrace upon her house, etc. I went out immediately and telephoned for Dr. Griffiths, and waited for him to go back with me. I said to the woman: "You are having an abortion." She said, "Yes." "Now tell me who induced this abortion." She gave me the doctor's name. If I had not taken Dr. Griffiths with me, and if I had not forced this woman to give me all the facts in the case, the chances are the next day the papers would have been full of a case where Dr. Wathen had induced an abortion on a certain woman, etc.

Dr. W. C. Dugan: My only reason for reporting the case was to elicit the views of the society as to the best manner of protecting ourselves in such instances. The idea was not to make anything public, but simply to protect ourselves. When I left the case this morning, I called the doctor's attention to the conditions present; told him that this girl was in a septic condition, that he knew what sepsis meant in such cases, and the girl has been in this condition for four weeks. I called his attention to the membranes which were removed, and then he understood for the first time that it was an abortion. I told him that we must arrange in some way to protect ourselves, and as he knew the family, he should lay the matter plainly before them, so it could be understood; that while we did not expect the girl to die, it was well to prepare for "war in time of peace." The girl is boarding with some friends, her parents not being in the city, and the doctor promised to go there this afternoon and explain the nature of the case fully, that they might understand the matter, so if she should die we are protected.

CORRESPONDENCE.

THE DAILY PRESS, MORTUARY STATISTICS, AND THE CAUSE OF DEATH.

In the advanced state of civilization of the nineteenth century—the golden age of murder, anarchy and crime of every description—death not infrequently comes suddenly by violence; it also frequently comes as suddenly from what appear to be natural, or at least inexplicable, causes. A person is found dead in bed. The physician and public alike immediately exclaim "heart failure"; if discovered dead elsewhere the verdict is "murder" or "suicide"; in either case the public press takes up the refrain, and the entire world is given a detailed, exaggerated explanatory dissertation upon "how and why it happened."

Is it not strange that the secular press seems always to know the cause of death, whether resulting from violence or otherwise, when the medico-legal aspect is often such that it is quite impossible for the combined efforts and sagacity of the medical and legal professions to determine whether a crime has been committed, or whether death resulted from purely natural causes? The daily paper, however, does not hesitate to proclaim to the outside world in every instance not only the cause, but just "how and why it happened." The public press seems impelled to express itself, in language both emphatic and forcible, even where medical and legal science utterly fails to come to any reasonable conclusion.

The daily papers are given to dabbling in things scientific, medical and surgical in particular, about which they know absolutely nothing, and the physician or surgeon is usually wrongly judged, being at a decided disadvantage, owing to his inability to make an ignorant public, and an equally ignorant public press, understand and appreciate scientific matters. The press pretends to understand

(though the public does not) and publishes items furnished presumably by its corps of intelligent (?) reporters, the result being a mass of garbled English as misleading as it is untrue; yet the public press is spoken of as the most important educational function and disseminator of truth of modern times.

In the determination of the cause of death, many complex and perplexing questions sometimes enter, as illustrated by several cases which have recently occurred in some of our sister cities, notably those of Buchanan, Luetgert, Guldensuppe and Zanoli. Medical and legal experts in those cases battled with and against each other, each in turn being foiled, "and the villain still pursued."

The public mind, through the medium of the secular press, has been sadly muddled over each of the cases referred to, and public opinion of modern medical science, as well as medical men generally, has been seriously lowered in consequence. Public opinion, or the public, does not stop to consider that, in *rerum natura*, physicians may honestly differ in their estimates, and seem inclined to pass judgment which may be unjust both *de jure* and *de facto*. For this prejudiced judgment the public press is largely responsible, because through this medium the erroneous information is disseminated. If the secular press would only publish truthful statements concerning scientific matters, making use only of indisputable facts, the conditions would be markedly improved, and the public would then be properly enlightened. The public press would, under those circumstances, be a public benefactor and not a public demoralizer, as at present.

The physician is not infallible in his diagnostic and prognostic abilities, and none will deny that mistakes are occasionally made. The public press has naught to say concerning his successes, but let one mistake creep in and it is heralded throughout the length and breadth of the land as "edifying news," an evil to which the writer has previously called attention. The legal light may make daily errors equally disastrous in their significance, yet these are not regarded as sufficiently sensational to merit notice by the public press. The druggist may substitute (by mistake?) morphine for cinchona, and the physician is blamed therefor in the public press; the patient may take double the quantity of a deadly poison prescribed by a careful and trustworthy physician, with fatal results, and the physician receives censure therefor in the public press. The patient, on the other hand, may mislead the physician by giving incorrect history, or what is more pernicious, other members of the family may answer important queries concerning the patient, and if evil result in consequence, the physician is blamed therefor in the public press, and so on *ad infinitum*.

It must be remembered that the physician possesses no instruments by which he can locate or define pain from which a given patient may be suffering, for eliciting an accurate statement of the family history, past or present, nor for discovering what may have been the individual actions of such patient; therefore the possibility of being grossly misled always exists unless a correct statement of personal and family history is given him.

Examinations, post mortem, by the coroner or others, and the signing of death certificates by attending physicians, are matters of much importance, too frequently overlooked or neglected. If more post mortems were held we would possess a greater abundance of reliable statistics as to the causes of death. How can the physician conscientiously sign the death certificate giving as the cause of death "heart failure"; moreover, how can the health authorities consistently accept and pass such a certificate? Does the heart ever fail without cause, and is not that cause the disease from which the patient died? And should not the death certificate be so formulated, instead of using the misleading terms "heart failure"?

Take the mortuary report of one of our cities for a given period, and from one to ten deaths will be found recorded from "heart failure," "peritonitis," "icterus," "accident," "convulsions," "dropsy," "debility," "fever," "congestion," "paralysis" and other equally ambiguous and misleading, if not altogether untrue, terms. To say that a person died from any one of the above conditions does not convey to us the cause of death. It is the writer's understanding that the intention of a death certificate is to convey to those interested an adequate idea of the disease which produced death, that public welfare may be protected and conserved; this being true, the cause of death, not a symptom of the disorder from which the deceased may have suffered, should be noted upon the certificate of death, a rule which should be required and insisted upon by those in charge of the health department.

The information has come to us that not many months ago, in a certain Kentucky city, several persons died from undoubted yellow fever, yet the mortuary reports for that period do not disclose, so far as we are informed, a death so recorded. An excuse for this may be that the deaths occurred during an epidemic which existed further South, and the death certificates were "juggled," as otherwise undue alarm might have followed. Whether the existing circumstances justified the course pursued the writer does not wish to state, but it would appear evident that in such cases a statement of truth would be infinitely preferable to one of falsehood, the latter being calculated to result harmfully to the public welfare. It is true that these deaths occurred in persons from infected, perhaps quarantined, districts, but this is no reason why the health department should accept or countenance false returns.

Of all erroneously stated causes of death, probably "heart failure" is most commonly employed. While, as previously stated, the heart of necessity fails in every instance when death takes place, still to show in the death certificate that a person died of heart failure is a misrepresentation, and should not be accepted by the health authorities. Why does the heart fail? There must be some adequate reason therefor, and such reason should accompany the death certificate, instead of showing that death occurred from heart failure.

Dropsy, icterus (and many other conditions) occur in the progress of well-understood diseases, but to show that death resulted from either dropsy or icterus, *per se*, would be not only misleading, but actually untrue, and should be prohibited; the disease which gives rise to these manifestations is the cause of death, and not the symptoms themselves, as would appear from the death certificates.

It would be absolutely useless to attempt to formulate any data as to the relative mortality of a given disease during a specific period based upon the mortuary statistics in their present form. Such data, however, would be in keeping with the trend of modern medical statistics, which may be expressed in the two words, "extremely unreliable." Many arguments might be deduced to confirm this statement, but to those acquainted with medical literature further proof is unnecessary.

The exact cause of death should in all instances be ascertained, if possible, whatever may have been the circumstances attending the demise, and the cause when ascertained should be noted on the death certificate, let the immediate or ultimate results be what they may.

Louisville, Ky., August, 1898. C. C. MAPES.

SOME OBSERVATIONS CONCERNING THE CARE OF THE INSANE.

One who is not a specialist should hesitate before publishing opinions concerning matters which have already received attention from eminent alienists and neurologists. The subject of the "Care of the Insane" is one, however, in which the general practitioner should feel a deep interest. The great advances which have been made, and which are being made in the care of these unfortunate sufferers from mental disease is well worthy of attention.

Even at the present time the methods of care and the theories concerning treatment vary greatly. It is not so very long ago when those suffering from insanity were confined more like criminals than patients, and restraint and even cruelty were of common occurrence. Enlightenment and gentleness move hand in hand.

The ability to master is shown by the granting of freedom, the power to restrict by the exercise of generous liberty, and the pitifulness of wisdom by a concern for those things which make up the detail of daily life. The skill and the fitness of those placed in the keeping of insane patients is shown by the desire to minister to their comfort and happiness, and to protect them against injury and abuse.

The qualifications of medical officers at lunatic hospitals has reached a very high standard, and the wise administration of these institutions would astonish physicians if they would take sufficient interest to inquire into the methods in vogue.

In considering advanced methods in the care of the insane we may examine into the condition as they exist at the Danvers (Mass.) Lunatic Hospital.

Situated upon heights which in every direction command views of exceeding beauty, supplied with a pure and invigorating atmosphere, and an abundance of water of excellent quality, its natural resources are most fortunate.

The Danvers Asylum has long been a marked institution enjoying the fullest confidence of the public, but of late years certain improvements have been added, which are worthy of consideration. I refer to the admirable congregate dining-room, the broad asphalt walk, which is a direct incentive to exercise, and consequently of health, and the system of bathing, which has only recently been completed. There are two other methods of cure in this institution which I cannot refrain from mentioning, because the practical results are so successful that they deserve attention. I refer to the abolishment of restraint and to the generous supply of pleasing music.

It would seem as if the congregate dining-room in itself made all these accessories of treatment a foregone conclusion. Restraint must be abolished, cleanliness must be insisted upon, and music is fundamental to complete the plan.

In a large institution of this kind, containing hundreds of patients, it did seem to men of well recognized professional standing an impossibility to carry out successfully the idea of a congregate dining-room. Even its well-wishers, who would gladly have approved of such a plan if in their judgment it were practical, prophesied only a dismal failure with a useless expenditure of time and money. In spite of all this opposition, the prospect was bravely and patiently carried out until to-day is demonstrated a success in the care of the insane, which is as brilliant as it is merciful, and excellent as a means of care as it is beneficial from the standpoint of pleasure.

"The congregate dining-room was opened early in 1897, and 522 patients and 64 employees take their meals there. The building is open to air and light on three sides. The room is 120 by 80 feet."—*Report of Superintendent, September, 1897.*

In all its details it is simply a conquest of obstacles resulting in a practical triumph. The dining-room is conveniently situated, by extending the central building and connecting it with the men's and women's wards by two light but handsome covered passageways. By a system which has gradually developed until it is now convenient and thorough, several hundred patients start at the signal bell, and marching decorously and noiselessly enter the dining-hall, the women at one entrance, the men at another. In the coldest days of winter this can be accomplished without annoyance or injury to health. Three times a day, at 6:30, 12 and 5:30, the large bell rings the warning signal, followed by the ringing of smaller bells in each ward. This gives patients who are not ready a chance to make themselves more presentable. This is the first benefit we notice, a reasonable appeal to the pride and self-respect of the patients to make a presentable appearance. It rouses them from self-contemplation and gives them some active idea of duty, in which they must take their part. In regular order ward after ward marches towards the covered ways leading to the dining-room. There is no jostling, quarreling or undue noise—some greetings among friends, and a chat as they move along brightens up the company. As the door leading into the great dining-room is approached, the strains of lively music are heard. Even in mid-winter, with many lights and the potted plants and the gay flags, it is a scene never to be forgotten, but on a glad June day, with bright sunshine, it is an object lesson of what wisdom and patience can accomplish to mitigate the darkness and sorrow of troubled lives.

Into this room, lighted with 40 large windows, march the patients to their tables. These tables are spread with a white cloth and furnished with castors and syrup flagons, sugar bowls, etc. The music continues until all are seated, and then at a signal from the supervisor the attendants bring to each place first knives and forks, then plates and butter dishes. No food is placed upon the tables until all are seated. The food is served to each patient. Wholesome bread and butter, oatmeal, cornmeal, meat, fish, potatoes, pudding, etc. Everything is well cooked and well served and in generous supply. As soon as the patients are provided for, the attendants go to their tables near the entrance, and with the exception of the supervisor and his assistants, who walk about seeing that all is properly attended to, this great company of patients sit quietly without any need of special observation.

The great room is square in shape, high studded. The walls are white to give plenty of light, but flags and many potted plants not only relieve all suggestion of bareness, but make an apartment not without beauty. The ceiling is supported by 30 red columns, and the floor space is divided into 12 sections, six on each side of the broad aisle. There are no partitions other than the stands for potted plants, which greatly adds to the attractiveness of the dining-hall. At the farther end of the main aisle, which separates the men's tables from those of the women, is a platform slightly raised above the floor, and large enough to hold the grand piano and four or five musicians. With piano accompaniment, two or three fiddlers and a clarionet player make music to cheer during the meal time.

It is arranged that if from any cause there should be any disturbance some lively air agreed upon is to be instantly played. All is open, men and women patients in full view of each other, but rarely is there any noise or misbehavior to attract attention. The patients who assist as waiters eat at the tables of the attendants.

When the mealtime is over, at a given signal all the knives and forks are collected by the attendants and removed from the tables. Then the supervisor steps upon the platform and gives any notice required for divine service, entertainment, etc., or introduces some quartet or soloist for the additional entertainment of the patients, and lastly he directs that "all please rise and sing." Then it is a sight to see hundreds of patients promptly respond in singing, as is done at every meal, the following verse:

"Eternal Father! may thy grace
All human circles still embrace;
Thy mercy shed its bounteous store,
Thy peace be with us evermore!"

At another signal all are seated again. The orchestra plays a march, and ward by ward the patients march away with their attendants, and the meal is over. In spite of the success of this innovation in feeding hundreds of patients at once, it is *not* to be wondered at that almost every one expected its failure, even if they did not openly prophesy it.

No sooner is the hall emptied, than in regular system the details from the kitchen come in on the run, as it were, and remove all the soiled crockery, and carry it into the wash room, where it is thoroughly washed in scalding water, dried and made ready for return to duty. The great floor is swept, the room aired, the tables relaid and prepared for the next meal, and all of the work requiring painstaking supervision is thoroughly attended to.

A visit to the great kitchen where the food is cooked and prepared is well worth while. The bread is particularly excellent, and nothing which is not properly cooked is allowed to be placed upon any table.

The musical feature connected so successfully with the refectory is still further encouraged in the entertainments given for the benefits of the patients almost every week. Upon Sundays, the choir, composed of attendants and patients, and accompanied by the orchestra, furnish excellent music, and in the afternoon a procession, headed by the supervisor and consisting of the choir and others who may care to volunteer their services, march through all the wards singing processional hymns.

This is greatly appreciated by the patients, and cheers the long afternoon with sacred memories of home and long ago. This is another of the many plans and projects for the patients' betterment and amusement which the superintendent has ever in heart and mind. Undoubtedly music is a therapeutic agent of positive value. This is demonstrated every day in the dining-hall, and with these nervous and melancholic sufferers it affords a comfort and solace which the expenditure of ten times the amount it all costs would not excel.

The patients are unconsciously receiving three times each day the music cure. It soothes the nervous irritability, it refines, educates and entertains the patients. It awakens them, as it were, from a dull mental slumber, and while it cheers the heart and gladdens the eye, exercises a control which double the number of attendants constantly on duty would fail to accomplish so well. All discordant noises are mitigated by the music, and the success of the congregate dining-room system depends largely upon its beneficent influence.

"Nought so stockish, hard and full of rage,
But music for the time doth change his nature."
—*Merchant of Venice, V., I.*

The institution is fortunate in having for its superintendent one who not only enjoys music himself, but believes in it as a valuable remedy in the treatment of the patients intrusted to his care. Although Mondays and Wednesdays are the regular visiting days, friends of patients who have a reasonable excuse to see them are admitted at almost any time. But visit the institution when one will, from stable to office, from cellar to attic, it is always the same, always in order, always ready for inspection, and never hiding any confusion.

Looked at from the hygienist's, the philanthropist's or from the utilitarian's standpoint, the system is complete, the *regime* always awake, active and alert.

Outside beneath beautiful shade, where again the master's thoughtfulness is apparent, stretches completely around the institution a broad asphalt walk, where twice a day, whenever the weather will permit, the patients march without restraint, chatting and smoking, for their healthful outing.

The facilities for bathing are ample, and cleanliness is not only encouraged, but is insisted upon. The wards have bath rooms, and in addition is the provision which has been made for thorough bathing, according to the system devised by Dr. Baruch, of New York. The strictest regulations govern the administration of this admirable bathing department, and the results are speedily shown in the marked improvement of the bathers. In some cases it would seem as if the cure had gotten no little of its success through the therapeutics of hydrotherapy.

In the management of the patients, restraint has been abolished. I have seen one patient with suicidal mania, who, before coming to this institution, was permitted only two hours in twenty-four without restraint, but upon arrival here, all restraint was at once removed. I should infer that great improvement had steadily developed.

Many illustrations of this absence of restraint could be given, applying even to cases of unruly and dangerous men. The fundamental principles obtaining in this institution are gentleness and justice. Each patient is made to feel that if he has any complaint to make he shall be heard, and that reasonable attention to his requests and rights will be afforded him. With rare good nature and harmonious action, the management continues and the restoration of patients to their homes and to useful, honorable lives places the seal of success upon this noble charity.

June 16, 1898. WM. THORNTON PARKER, M.D.

PHILADELPHIA LETTER.

DEATH OF DR. WILLIAM PEPPER.—The sad news from California, announcing the death of Dr. William Pepper, from angina pectoris, on last Friday (July 29), has thrown this city into mourning. Probably no man now living was so identified with the growth and the development of the city, and more especially of the University of Pennsylvania, whose interests he has kept closest to his heart for nearly thirty years. While he was a voluminous writer on all medical subjects of the day, occupying the position of provost of the University for 13 years and attending to an immense private practice, Dr. Pepper was always a leader in all public questions which arose looking to the betterment of his fellow man.

In educational matters he was foremost, thus guiding the destiny of thousands who go out from this great institution, while in the medical department he was the strongest advocate, and one of the first, for a four-year course. He toiled night and day, eating and sleeping when he could, but always working to bring about a higher standard of medical training.

As a young man he evinced the dawning faculties which became fully matured as he grew older. He graduated at the University at the age of 19, and from the medical department two years later. At the age of 25 he became professor of pathology, and at 33 succeeded Dr. Alfred Stille to the chair of theory and practice of medicine, which he continued to hold until the time of his death. His wonderful intuition, tact and keen perception soon brought him forward as one of the leading physicians of the day, and his consultation practice was one of the largest in the world.

In manner Dr. Pepper was kind, gentle and affable, and he made friends readily. His generosity is shown by the monumental buildings which he has built from his private purse, and he has endowed them highly. He has given the University of Pennsylvania hundreds of thousands of dollars. How he could accomplish the amount he did has always been a surprise to his intimate friends, but the wonderful vitality began to give way after a severe attack of la grippe last winter, from which he never fully recovered. He has been honored by his city, State and country, and the good that he has done will be active for generations yet to come.

PECULIAR BEQUEST TO UNIVERSITY OF PENNSYLVANIA.—Edwin P. Kelly, a tailor living at Merchantville, N. J., recently died, and in the will a clause was found providing that a sufficient sum of money be set aside in order that his body could be mummified and presented to the museum of University of Pennsylvania.

This provision of the will cannot, however, be carried out. It is also stated that he had formulated a simple plan of diet by which life could be sustained for many years. Being 74 years of age, he had hoped to live until 90 by eating a certain diet composed of fats, nitrogenous foods and carbohydrates, with a certain amount of bathing and exercise. Disease, however, overtook him, and the formula could not be employed.

TUBERCULOSIS IN CATTLE IS BECOMING RARE IN PENNSYLVANIA.—The State Live Stock Sanitary Board, of which Dr. Leonard Pearson, of Philadelphia, is a member and State veterinarian, deserves great credit for the work in which it is now engaged. It is stated that thirty thousand cattle have been tested within the State with tuberculin, and a larger number examined in various ways. Of these about three thousand have been destroyed, thus destroying this many affected ones. It is reported that the cattle from the older dairies suffered most from tuberculosis, and many went into bankruptcy when their live stock was destroyed. The farmers, who were at first opposed to such strict measures, are now its strongest advocates, since it is a means by which to improve the grade of those now living.

The effects of the plan on the human race no doubt will be most beneficial from a hygienic standpoint.

DR. GUITERAS OVERWORKED.—A dispatch from Siboney, dated July 16, stated that Dr. John Guiteras, of Philadelphia, the authority on yellow fever, had been prostrated for several days from effects of overwork, incident to the campaign in Cuba. Up to that time there had been reported a total of 250 cases of yellow fever, with five deaths from the disease, showing the apparent mildness of the epidemic. In part, however, the low mortality must be attributed to the fact that physicians are better acquainted with the symptomatology of yellow fever than they were formerly, so that many cases are now recognized which would have escaped detection years ago.

TRANCE LASTING TWO DAYS. —Louis Holzworth, a young man living in Philadelphia, recently became so affected at the death of his mother that he fell into a state of catalepsy and lay in that condition nearly 48 hours in St. Mary's Hospital.

HOSPITAL EVIL STILL AGITATED IN PHILADELPHIA. —If all the plans for the abatement of charity abuse toward hospitals of Philadelphia could be published they would fill a very large book.

Not one has proved practicable or efficacious. Each hospital desires its clinic to grow, and each man who goes there for treatment asks himself, "If you can get something for nothing, why not take it?" Hundreds of measures have been advocated, but yet the clinics grow.

Many prominent physicians believe the main fault lies in the corruption of the public conscience, so that people do not care whether they lie or not regarding their circumstances or ability to pay.

Some time ago a plan was devised by which to bring the matter before the State Legislature, so that any one guilty of making false statements regarding his circumstances should suffer a severe penalty.

At a meeting of the Medico-Legal Society of Philadelphia last week this matter was brought up again for discussion, and it was thought that the plan was quite feasible, and received the indorsement of the society. It is a long road, however, by the way of legislatures, so that the evil will exist for some time yet to come.

BERI-BERI AFFECTS PHILADELPHIA SAILORS. —Seven cases

of beri-beri were recently brought into this city by the German bark "Steinbeck" from Probolingo, via Bermuda Isles. All of the patients were immediately taken to the German Hospital, where they are said to be recovering.

To Rescuscitate Those Who Suffer from Lightning Stroke.—While thousands of people were assembled at Fairmount Park, Philadelphia, on July 4, a severe thunder storm ensued, accompanied by flashes of lightning, one stroke killing three persons instantly. Since that time the matter has been investigated by the Park Commissioners, and certain views have been obtained from several physicians relative to the nature of lightning stroke. Dr. J. Howard Taylor, chief medical inspector of the Board of Health, recently said: "There can be no doubt that there are cases of suspended animation from lightning stroke or other electrical shock, just as there are such cases in drowning. There certainly ought to be rules thoroughly known by police and park guards for the treatment of victims of electrical shocks. Such rules would be of especial value in saving the lives of men shocked by electric wires in cases of fire, etc. The fact that death is not always instantaneous following an electrical shock reflects very unfavorably on punishment of criminals by electrocution."

By a reference to the statistics tabulated by the United States Weather Bureau, the following facts are learned:

Thickly-settled communities are far less subject to lightning stroke than sparsely settled locations.

In general, the risk in the country is five times greater than the city.

Geological conditions are also important factors.

Chalk formation seems least susceptible, while clay is most frequently affected.

Different kinds of trees are liable in different degrees. The oak is most frequenly and the beech is least frequently struck.

Generally trees struck are those standing in the clear or on edge of forests, their height averaging from 52 to 66 feet.

It is reported that for the five years from 1890-1894 over 1,100 lives were lost, most of which occurred from April to September, the maximum number occurring during the months of June and July.

In regard to the treatment, rules are suggested, such as application of warmth to extremities, administration of stimulants and artificial respiration to be persisted in for at least an hour.

Tuberculosis in Cattle.—As the result of the inspection of 19,000 cattle recently made by Dr. Leonard Pearson in the State of Pennsylvania, 12 per cent. were found to have tuberculosis. Most infected cattle come from the States of New York, New Jersey and Maryland.

Of 1,000 cattle from Ohio only six suffered from this disease, indicating that Western cattle are least frequently affected. Dr. Pearson has acted as State Veterinarian for some time, and has proven a worthy public servant. He is connected with the veterinary department of the University of Pennsylvania, and has recently been appointed a delegate to the International Tuberculosis Congress, which will meet in Paris July 27. E. A. W.

"IN SPITE OF ALL THAT MEDICAL SKILL COULD DO THE PATIENT DIED."

Bismarck died on Saturday, July 31. In an interview with a newspaper correspondent on Sunday, Dr. Schweninger said: "On Thursday I managed to rouse the prince to take dinner, saying that we must have a glass of champagne together. After dinner he was in such good spirits that he smoked five pipes running. Then I persuaded him to go to bed before I left for Berlin, which I had to do, although even then I feared it was only a case of days. Last night I returned just in time to see him pass away. . . . I feel as if the aim in my own life were gone. . . . His death is felt deeply by the family, and all the more so, as they had come to believe me a magician, and that the prince would never die as long as I was near. I did my best, God knows, but, unfortunately, I am only a poor mortal, who has nothing to live for since he has gone."

In my estimation it would be well worth while, if he could be put in the right way, for such a doctor to live on for many years in order to have time to repent of his sins, or at least to learn from some fairly intelligent layman not "to rouse" any ailing man to come to dinner, especially a plethoric old man, who was not hungry, to take unneeded food, and least of all to encourage him to take alcohol and permit him to "smoke five pipes of tobacco running." It seems to me that the most radical mental "healer," faith curist or spiritualistic "doctor" would fail utterly to concoct a more vicious criticism on medical treatment than is contained in the simple story of Dr. Schweninger's attendance upon his distinguished patient at the time when, to use his own words, he "even then feared it was only a question of days." (Cable dispatch to the New York *Herald* the day following the death of the prince.)

Can it be truly said that Bismarck died in spite of all that medical skill could do? And what shall we say of the prevailing death-rate in typhoid fever, under the prevailing treatment, forced feeding and drugging being the chief factors under regulation management? The mortality we know to be from 15 to 20 per cent. Nor is this the worst of it, since the eighty to eighty-five survivors out of every one hundred patients are so deeply maimed that, as we learn from the insurance people, one-fourth of their number finally die of consumption. And yet no fact in medicine has ever been more absolutely proven than that a radically different treatment, viz.: the bath treatment of Brand, of Stettin, Germany (the late Dr. Brand, a distinguished regular, who died about two years ago, lamenting that the experience of himself and several equally distinguished medical men among his confreres, and all their efforts by voice and pen, together with the aid of several eminent physicians in France and this country, had accomplished so little in the way of propagating the only true method of dealing with the disease in question), reduces the mortality in typhoid fever to less than 2 per cent.

For example, Drs. Brand, Vogel and Juergenson treated one series of cases, numbering 1,223, with but twelve deaths, "*and not one of these twelve deaths occurred in any case that came under treatment within five days of the inception of the disease.*" "A treatment," remarks Dr. Simon Baruch, of New York, one of the very few, and about the first in this country, to adopt the system of Brand, "which shows a mortality of only 1 per cent. in 1,223 cases collated from five different sources, including private practice, and civil and military hospitals, may be regarded as nearly perfect." (See "A System of Practical Therapeutics," Hare, p. 495). And yet throughout Europe and this country not one regular physician in five hundred practices this life-saving method, and the death-rate, as already remarked, remains at about 15 to 20 per cent., a needless waste of human life costing civilized nations many millions of dollars annually, besides entailing endless misery and vast expenses for physicians' fees, nurses' attendance, etc., upon the families needlessly bereaved; long, painful and costly sicknesses being the rule, where should be comparatively short and inexpensive sicknesses. And yet, in every fatal case the general belief is, that "the patient died in spite of all that medical skill could do!"

Again, the "regular" mortality in pneumonia remains at 25 per cent. to 35 per cent., speaking within bounds, and, as in the matter of typhoid fever, the survivors rise from their sick-beds in an unnecessarily devitalized condition, whereas, under right treatment, they are apt to convalesce rapidly and recover sound health. Dr. Mays, of Philadelphia, reports several hundred cases treated by the chest-chilling method, with a mortality of less than 4 per cent. Well may we ask, in the language of Dr. Baruch, "Why should we ignore these statistics, the accuracy of which is beyond dispute, and longer leave these methods chiefly in the hands of the quacks?" It is certain that a much larger proportion of irregular practitioners—that is, physicians who have never graduated from any medical school—than regulars make use of the great number of hydriatic devices in the treatment of disease and achieve greater success thereby. While the profession in general are forever on the still hunt for new poisons with which to "down the symptoms" in their attendance upon the sick, a large army of irregulars (sneered at as hydropaths and quacks), and here and there a regular, are employing hydriatic measures and thus saving many valuable lives that would otherwise be destroyed.

The theory of the vital importance of withholding all food, save fresh, soft water, in these critical acute sicknesses is based upon the simple physiological fact, clearly indicated by the state of the stomach and bowels, that

there is absolutely no possible chance for digestion or assimilation, and, therefore, that every particle of food ingested goes into the alimentary tract to putrefy and load the circulation with the products of such putrescence, thus constituting, under the usual system of constant feeding, blood-poisoning by the wholesale, so to say; while undissolved milk curds collecting together are a constant source of irritation of the diseased intestine, and tend to provoke hemorrhage and perforation of the bowels, increasing pain, fever, delirium and doing all manner of mischief. Trying to restore a fever patient by feeding before the crisis is past and before the return of normal hunger, therefore, is like trying to extinguish a burning building by turning on a stream of petroleum. "How often have I observed a fever patient suffering keenly, sleepless, perhaps delirious, eject a mass of milk curds from his stomach, whereupon his symptoms would undergo a marked change, the skin would become diffused with a gentle moisture, and he would fall into a quiet sleep, which would continue, perhaps, for several hours, or till time for the next meal," to quote from memory the statement of a distinguished physician, whose name at this moment escapes my mind.

The attitude of the profession in general toward this reform practice may be inferred from the reply of a medical friend of the writer, to whom he had presented the question as above: "Yes, no doubt there is a great deal of truth in all you say, but should I attempt to employ such methods in my practice it would drive me out of my district!" And it is to be feared that he was too nearly right in his statement. The laity are accustomed to regular treatment and regular death-rates, and not unnaturally they ask, when the point of a radically modified treatment comes up for discussion, "How is it that one man can know more than all the rest of the profession?" The deep-seated prejudice of the people against what is termed the cold water treatment is chiefly due to the attitude of the vast army of physicians who fail to learn and practice it.

My friend's aversion to adopting a radically different treatment from what he was taught in his college course and had so long practised is readily explainable as follows: He puts a typhoid fever patient in a cold pack, or, "worse yet," in a tub of cold water, withholds all food of every description except fresh water, which the patient is encouraged to drink often and quite profusely. The cold pack is freshened every hour or less, or as often as it gets heated up; or, if the bath method is employed, it is given for fifteen minutes or so in water at a temperature of about 67 F., with brisk hand-rubbing all over so long as the patient is in the water, this bath given as often as the patient's temperature rises to 103 F., though it cannot be too emphatically stated that this bath is, by no means, when rightly understood, given for the purpose of "downing the temperature," as is true of the antipyretic drug treatment, and, in fact, it does not have the effect of markedly reducing the fever heat at once.

The aim of the expert in hydriatic treatment in typhoid fever, and the true function of the so-called Brand bath, is to strengthen the heart, deepen the respiration, moisten and clean the tongue and hasten the return of appetite, to brace the entire nervous system, to keep the skin moist and in condition to properly perform its functions, to promote the patient's comfort, and, in brief, to help the organism in its efforts to eliminate the offending waste and effete matters, and to heal the lesion in the stomach and intestines, and all this is accomplished through the invigorating influence of the bath. This is all in direct contrast to the results of the routine drug treatment, which can be likened to nothing better than a system of constant wheel-trigging and "hanging on behind" when nature is pulling a big load up-hill.

But to return to the question of explaining why this practice, so blessed in its effects, does not make much progress among the profession: Should my friend's patient rapidly recover, it would not be generally accepted as proof of his skill; far from it; but the onlookers for the most part would declare that the patient was not very sick; perhaps did not have typhoid fever at all; that the practice was brutal and would probably have killed the patient if he had been critically ill, or if he had not been tremendously tough! The sickness is short, the doctor's bill correspondingly small, no reputation is gained tending to bring other fever patients into his hands, but, on the contrary, the gossip of the onlookers, as indicated above, tends strongly to discredit the doctor's skill and to "drive him out of his district." On the other hand, the prevailing treatment results, as we all know well, in long, painful and costly sicknesses and great loss of life; but the doctor is an honest, honorable and sympathetic man, doing the very best he knows, as we all admit; his constant and watchful attendance during his daily calls, two calls a day being often required for many days at a time, attract the attention of the entire neighborhood (the best possible sort of advertisement, of course); his bill runs up to a large amount, and if his patient gets well the doctor gains the reputation of "pulling him through a hard sickness"; if he dies it is, as we know, "in spite of the best medical skill."

CHAS. E. PAGE, M. D.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

Cold-Air Treatment of Typhoid Fever.—In the *Australasian Medical Gazette*, Dr. J. Murray Gibbes states that he recently addressed a letter to an eminent refrigerating engineer asking whether he could suggest for use in hospitals a better system for lowering the temperature of fever patients than that of a succession of cold baths; the temperature to be reduced from say, 103 degrees F. to 100 degrees or 101 degrees F. The reply was to the effect that there was nothing to prevent the fever ward in hospitals being fitted up in such a manner as to permit of the reduction of temperature of any compartment down to as low as 5 degrees F., or its maintenance at any figure between that and the temperature of the external air by the mere turning of a tap, with the necessary plant upon the grounds, the cost of which would be within the means of a small hospital to meet. Such have usually a steam boiler, probably in connection with the pump. It would be only needful to lay down a small freezing machine and connect it with the fever ward—which would have to be insulated—by means of pipes, through which chloride of calcium brine circulated, abstracting both moisture and heat from the room, a tap regulating the flow. The machine is simple, and, in addition to the service indicated, it would make ice for the use of the hospital. It could have attachments by flexible tubing for local applications of cold. In the case of ice only one temperature—viz., 32 degrees F.—can be obtained, but with brine circulation any temperature within the range of the machine, either above or below the freezing point, may be reached.

The advantages of the cold-air treatment of fever are the following:

No handling of the patient is necessary.

He will lie on a mattress, and be covered by another, through which tubes will flow a cooling mixture when required to lower the temperature. There can be no doubt that experience will prove that this should be a continuous current, so that the temperature of the body can be prevented from rising above a certain degree.

Experience has taught that the cold treatment of typhoid, to be useful, must be carried out "systematically and with vigor," and that patients endured this repeated withdrawal of heat without experiencing any bad effects. Riegel proved that ice-bags on the chest and abdomen were less debiltating than cold baths, and the cold-air treatment will be found even less so.

The shock to nervous persons of being placed in a cold bath is avoided.

We can also, by turning another tap, have hot water to pass through the same tubes when necessary in the treatment of any disease.

We can keep the patient for any length of time surrounded by a cold atmosphere, continually abstracting heat, and so preventing him from rising to a dangerous temperature, and that without disturbing him. Cold water tubes can be placed on any part of the body where necessary, as in disease of the chest.

There can be no doubt that the cold air treatment proposed will keep down the high temperature of typhoid, and so greatly lessen the death-rate, and can be carried out without inconveniencing the patient in the least.

As the temperature of typhoid patients is generally higher during the night than during the day, the cold-air

treatment can be easier carried out, owing to the nursing staff being less during that time, and assistance not easily to be obtained.

The simple turning of a tap cannot be compared with the trouble entailed on the hospital staff in providing a cold bath. In fact, one nurse could attend to a dozen patients with less trouble than to one under the old treatment.

In other complaints the freezing air treatments must prove invaluable such as sunstroke, and local congestions and inflammations of the chest, etc. Tube pads of various shapes could be made to fit different parts of the body for conveying hot or cold water.

Comfrey (Symphytum) in a Case of Sarcoma.—In an address to the Royal Academy of Medicine in Ireland (*Atlantic Med. Jour.*), Mr. William Thomson, president of that body, said, speaking of a case of sarcoma: "The growth returned; the patient then consulted Dr. Semon, of London, who advised immediate removal of the jaw. This was done after the usual methods, and the whole base of the skull was found infiltrated. All that possibly could be was removed. After a month the growth returned, bulging upon the face, almost closing the right eye.

"This was in June last, and we all agreed upon a speedily fatal prognosis. Early in October he walked into my office looking better than I had ever seen him, and I was not able to identify a trace of the former trouble. He told me he had applied poultices of comfrey-root, and that the swelling had gradually disappeared.

"Now, this was a case of undoubted diagnosis by all the best known methods, in which the disease recurred twice, and the second time in an extreme degree; and yet this recurrent tumor has disappeared. I do not know the cause, but I do believe that comfrey-root can remove a sarcomatous tumor. The fact that this recurrent tumor has not sloughed away, but simply with unbroken covering disappeared, is to me one of the greatest surprises and puzzles I have ever met with."

Adonis Vernalis in Epilepsy.—Tekutiew (*Brit. Med. Jour.*) (*Maryland Med. Jour.*) recorded the case of a boy, aged 10 years, who had suffered from severe epilepsy for two years. The fits occurred 15 to 20 times a day, and there was commencing mental degeneration. A mixture of infusion of adonis vernalis with some codeine and sodium bromid was given, and the dose of adonis vernalis subsequently increased. The result was most successful; the attacks of epilepsy gradually diminished, and before the patient left the hospital had ceased altogether. The treatment by adonis vernalis was strongly recommended by Bechterew, who combined it with bromids, and found that some cases of epilepsy seemed to be permanently cured by it.

Treatment of Hemorrhoids by Injections.—S. G. Shaleeta, of the Kieff Jewish Hospital, in a reprint from the *South Russian Medical Gazette* (*Br. Med. Jour.*) Jan. 8, 1898) has modified the method of treating hemorrhoids with injections of carbolic acid and glycerin, by using pure liquid carbolic acid, injecting each pile with a Pravaz syringe to a certain degree of fullness, and completing the operation in one sitting. Two, three or four syringefuls of the acid are injected according to the number and size of the tumors. For external piles he uses a mixture of two parts of pure carbolic acid to one part of a 2 per cent. solution of cocoaine. Even if four syringefuls of this mixture are injected the quantity of cocaine is not sufficient to cause dangerous symptoms. As a matter of experience only a few drops should be injected where we have to deal with external piles, the syringe being introduced through the mucous membrane, and not through the skin. The history of 69 cases treated in this way is given and the results in all were highly encouraging. When the piles shriveled up and separated, the surface presented was similar to that produced by the operation by ligature or the clamp and cautery.

The advantages which the author claims for this mode of treatment are: (1) Absence of marked pain during the injections; (2) no necessity for anesthesia (this is a great advantage in old and feeble patients, and those exhausted by repeated hemorrhages); (3) little risk of suppression of urine following this operation; (4) no loss of blood during the operation; (5) no necessity to keep the bowels quiet for three or four days after the operation, as is the case in other methods of operating.

Concussion of the Brain and the Use of the Seton.—This is a time (*J. A. M. A.*) when physicians are again trying the famed remedies of olden times, blood-letting, for instance, and it is therefore of interest to read (*Berl. Klin. Woch.*, Feb. 21, 1898) that Heidenhain has employed a seton with success in six cases of concussion of the brain, with resulting complications, such as dizziness, pain, etc. In all of the cases mentioned remedies of various sorts had been tried without effecting a cure, while the introduction under aseptic precautions of a seton of linen, through the thick skin of the back of the neck, did not fail in a single instance to bring about a cure. The seton was daily removed and a fresh piece of linen, smeared with an irritating salve, was introduced, while the whole was covered with a light dressing.

The Root of the Dahlia as a Protective Against Snake Venom.—Phisalix (*Revue Scientifique*, 1898, No. 10; *Deut. Med. Zeit.*, July 4) finds that tyrosin, injected into guinea pigs, is capable of rendering them proof against serpents' venom. He remarks that tyrosin is particularly abundant in the root of the dahlia, and that the fresh expressed juice of the root may be used instead of a prepared solution of tyrosin.

Sodium Salicylate for Toothache.—Dr. Frederick C. Coley, in an article on the medical treatment of toothache in a recent number of the *Practitioner*, states that of all medical remedies for toothache he knows of none which is so successful as salicylate of sodium. He believes it is especially useful in those cases where the pain is started by "taking cold."

A dose of gr. xv. will usually relieve the pain very promptly, and if this is repeated every four hours the inflammation may entirely subside, leaving, of course, a carious tooth to be disposed of according to circumstances. The addition of belladonna is often advantageous. Fifteen grains of sodium salicylate, with 15 minims of tr. belladonna, will often procure refreshing sleep instead of a night of agony. It is especially valuable with children, where extraction of teeth is to be avoided, if possible, lest the development of the maxilla should be injured.

RETROSPECTIVE DIETETICS.

Fasting in the Treatment of Infectious Diseases.—De Domenicis, of Naples, a strong believer in the doctrine of fasting in fevers, has made a study of 140 cases of pneumonia from this point of view (*Wien. Med. Presse*, May 1, 1898). A specific virus and exposure to cold are not enough in themselves to cause pneumonia. The third factor is a bad state of the gastro-intestinal canal, and a resulting condition of auto-intoxication, which lowers the vitality of the patient and increases the virulence of the pneumococcus. The author, therefore, washes out the stomach in these cases, and then administers intestinal disinfectants, and this procedure is followed by a fast of several days, or even of a week in certain cases. In other words, the author believes that the deadly agency in pneumonia comes from the specific toxins as much as from products in the intestinal canal. It would appear that the author does not use his fasting therapeutics unless there is some special evidence of gastro-intestinal auto-intoxication. He mentions arthritis as another form of disease eminently suitable for fasting.

On precisely the same grounds, Dr. Adolph Konig, of Pittsburg, contends that patients suffering from typhoid fever should receive nourishment only in response to their demand for it, as indicated by hunger. He, too, is of opinion that in conjunction with abstinence from food antiseptics may be usefully administered.

Mushrooms Not So Very Nourishing.—The report of the recently concluded investigations of the physiologic properties of edible mushrooms and other fungi, made by the American Physiological Society at the instance of Dr. S. Weir Mitchell, has shown the fallacy of the popular belief in the great nutritive properties possessed by these articles of food (*Med. News*). According to these investigations, the total amount of available proteid present in these fungi is never more than 2 or 3 per cent., and their nitrogenous elements chiefly consist of non-proteid bodies. The amount of fat, pholesterin, soluble carbohydrates, fibers, and organic substances found in mushrooms corresponds very nearly to that found in such common articles of vegetable diet as potatoes, corn, and peas.

The commission in charge of this study consisted of professors Mendel and Chittenden, of Yale University, Professor Bowditch and Pfaft, of Harvard University, and Professor Abel, of Johns Hopkins University. The report of these gentlemen seems to prove that, while mushrooms may be of service as dietetic accessories, they by no means deserve the term "vegetable beefsteaks," with which the popular mind is wont to associate them.

Vegetable Diet in Diabetes.—*Médicine Moderne* announces a new treatment of diabetes, extolled by Petro Lupo, of Naples. It consists in an exclusively vegetable diet, all sorts of vegetables being permitted, including peas, beans, fruits, etc. Two cases are reported, the result in one case being characterized as marvelous. In both albumin and sugar disappeared from the urine, gangrene moderated, and recovery was complete within 18 days.

Diet in Angina Pectoris.—Rumpf (*Amer. Med. Surg. Bull.*) has recently written an exhaustive article on angina pectoris resulting from arterial calcification. It seems to the author highly irrational to condemn those patients to a diet rich in lime, such as milk, when the trouble depends upon an excess of lime in the body. Lime should be excluded as much as possible, and those medicines should be given which have a direct effect upon the excretion of lime in the urine and feces. The diet, as elaborated by the author, is as follows: Meat, 9 oz.; bread, fish, potatoes and apples, each about 4 oz.; cheese, eggs, beets, rice, cabbage and spinach, which are rich in lime, are to be proscribed absolutely. As a drink the author recommends distilled carbonic water, or simply water that has been boiled and cooled. As a remedy the following formula is given:

Sodium carbonate	ijss
Lactic acid, enough to saturate.	
Then add:	
Lactic acid	ʒ ijss
Syrup	ʒ ijss
Aqua destil	℥ vj

Sig.—To be taken during the day.

Diet in Health and Disease.—Dr. William Henry Porter, in a recent paper on this subject, *Phila. Med. Jour.*, stated that the most valuable food-stuffs are beef, eggs, and milk. Animals foods have the advantage of being easily digestible and not prone to undergo putrefaction, but they are deficient in nucleo albumin, which is essential for the construction of the red-blood corpuscles and for supplying energy to the nervous system. It is for this reason that those who are kept for any length of time on an exclusively animal diet become anemic and weak. Vegetable foods, on the other hand, contain a large percentage of nucleoalbumin, but also an unduly large proportion of starch and sugar, and are prone to undergo fermentation. Moreover, from 15 to 60 per cent. of vegetable food-stuffs pass through the alimentary canal unchanged. It is true that fruits are laxative, but they are so because they cause fermentation, and in doing so, they favor the production of toxins by microbic activity. The most important of the vegetable foods are rice, macaroni, green peas, spinach and lettuce. Potatoes should be taken quite sparingly.

Pure Albumin as Cheap Food for the Masses.—Professor Finkler appeals to hygienists in general to test and help introduce the new tasteless, inexpensive preparation of pure albumin, which, added to vegetable soups, meat extracts, or any dish, enhances its nutritive properties, and in the most concentrated, easily digestible form furnishes a valuable food at less than half the expense of meat. It is obtained from almost all kinds of vegetable and animal substances, in the form of a dry powder, which keeps indefinitely and accomplishes all that an albumin can in building up strength and tissue. He calls it tropon; further details in the *Deut. Med. Woch.*, of April 28.

Effect of Boiling Upon Potatoes.—In a recent bulletin issued by the United States Department of Agriculture the nutrient losses by boiling of various vegetables are considered. The reports of various experiments show that when potatoes are boiled with the skins removed, there is a very considerable loss, not only of organic nutrients but also of mineral salts. These salts, while not nutrients in the sense in which this term is frequently used, are nevertheless important in nutrition. They are of especial value because of the potassium compounds they contain, and are apparently necessary for health. The greatest actual loss of nutrients seems to be due to the mechanical abrasion of the soft outer portions of the potato while cooking. In this case nearly 3 per cent. of the carbohydrates and 4 per cent. of the available flesh-forming nitrogenous matter are lost. When the potatoes are boiled with their skins on the loss of nutrient is very slight, consisting chiefly of non-albuminoid nitrogenous substances and mineral matter. It is self-evident that if it be desired to boil potatoes with as little loss as possible the skins should be left on.

The Diet of Dyspeptics.—(From an address by Max Einhorn, M.D., before the Academy of Medicine.) How shall we treat dyspeptics? Medicaments are not of much value, or play only a subordinate part. The main factor lies in proper nourishment. These patients who have abstained from most kinds of food for years, must now learn anew to eat. Their stomach and intestines very quickly adapt themselves to this new condition. First and above all, it is of importance to increase the quantity of nourishment; second, to provide a sufficient variety of food.

In order to improve nutrition, two articles of food, which hitherto have been often avoided by laymen as well as physicians, play an important part. I mean bread and butter. Bread forms one-third of the total amount of ingested food in health, and besides having a nutritive value serves the purpose of increasing the flow of saliva during its mastication. It also creates an apppetite for other food.

Butter not only improves the taste of various kinds of food, but is also in itself a nutriment of the greatest importance. The great number of calories which butter contains (100 grams give 837 heat units, while the same amount of bread develops about 217) shows this in the clearest manner. Another advantage which butter presents is that its volume is only about one-third that of bread. A patient taking about one-quarter of a pound of butter a day receives therewith more than one-half of the heat units required. This quantity of butter is well borne by most of the patients.

As nutrition pays the principal part in the treatment of these patients, it will not be amiss to give a few hints with regard to its management. To begin with, it does not appear advisable to permit patients who have abstained for a long while from the coarser varieties of food everything at once. This abrupt change may at times be the cause of various unpleasant symptoms: therefore, it should be accomplished gradually. At first give, besides milk, gruels and thickened soups, eggs beaten up in milk, etc. A few days later begin to add to this bill of fare zweiback or crackers with butter. Then permit meat, the white of chicken and well-scraped beef; next, mashed potatoes; still later give wheaten bread, baked or boiled potatoes, soft-boiled or scrambled eggs, oysters; at last allow vegetables and fruits.

An essential point with regard to nutrition is punctuality in the taking of meals. In most of these cases, in which a gain in weight is of great importance, frequent meals (five or six daily) will be advisable. Although it does not appear advantageous to prescribe for the patient the quantities of the various foods in exact weight (grains or ounces)—as by so doing they are too easily reminded of their ability or inability to digest this or that quantity and not more—it is nevertheless of value to mention approximate figures by which they may be guided or below which they shall not go.

OBITUARY.

In the death of Dr. William Pepper, Philadelphia has lost one of its most active and public spirited citizens and our profession one of its ablest members. His influence and energy were felt in all questions relating to public health, as was shown in part by his strenuous efforts for better water in the city. For many years he was connected as professor and dean with the University of Pennsylvania. Through him the funds of the institution were largely increased, laboratories erected, one of which, the William Pepper laboratory, he rebuilt and endowed himself. Dr. Pepper's books and his contributions to journalistic medical literature rendered him universally known to the medical profession.

MISCELLANY.

—A congress of midwives is to be held in Turin in June.

—An international congress of medical women is to meet in London this year.

—A colored physician in Alabama has on his professional card the legend, "No pay, no cure."

—When we say wisdom is better than riches we always mean our wisdom and other people's riches.

—A new cure for yellow fever is said to have been discovered by Dr. Caldas, of Rio Grande, Brazil.

—Wounds about the face may be closed by a subcutaneous ligature, and thus render a scar less likely.

—The Hahnemann Hospital, of this city, will receive the sick of the families of soldiers and sailors *free*.

—The epileptic colony in Bielefeld, Germany, which was established in 1868, is said to number 1,500 persons.

—In eating the important point is not that we eat slowly or fast, but that when we do eat we chew with energy.

—A case of amblyopia in a man, arising from the excessive use of tea, is described in the *Lancet* for March 12, 1898.

—Richter's ointment for psoriasis: R. Icthyol, salicylic acid, pyrogalic acid, each three parts; olive oil, lanoline, each, ten parts.

—The University of Iowa requires of their students a satisfactory examination in mental diseases before receiving their degrees.

—It is not generally known that the national air of the South is not "Dixie," but "The Mocking Bird," as adopted by the Confederate Congress.

—Dr. H. T. Whitney, President of the Medical Missionary Association of China, is engaged in the laborious task of translating Gray's Anatomy into Chinese.

—Dr. Attyaale, writing from Ceylon, claims to speedily cure dysentery with drachm doses of ammonium chlorides given every four hours with a milk diet.

—Convalescent (dictating): Please say to Mrs. Jackson that I thank her not alone for the brandy peaches that she so kindly sent me, but for the spirit in which they were sent.

—A pension of $500 a year has been a warded by the Russian branch of the Red Cross to Mr. Henri Durant, the initiator of the society, who is now in straitened circumstances.

—Russia contains more than twice the number of blind persons of all the rest of Europe combined, owing, it is thought, to the long snow season and the uncleanly habits of the people.

—Throughout England, the professional classes are distinctly taller than those of the lower orders. And it is a singular fact that the members ot the Royal Society average taller than any other class of men.

—Alcohol consumption in the United States is on the decrease. Compared with 1888 the total consumption of alcohol in 1896 was one gallon per capita less. This indicates that 70,000,000 gallons of alcohol less was consumed in 1896 than in 1888.

—Mr. Frederick Treves, the English surgeon, recently removed the whole of that part of the bowel below the transverse colon, together with the anus, in a case of idiopathic dilatation of the colon in a child. The patient made a good recovery.

—The well-known fact that the venom can be sucked out of a wound without inconvenience, is attributed by Fraser to the bile in the alimentary canal. He has demonstrated that even very small quantities of bile will render snake venom harmless.

—Dr. I. C. Rosse, of Washington, a well-known traveler and authority on climatology, refutes the idea that Rome is unhealthy and offers statistics to show that from a sanitarian's standpoint it is undoubtedly superior to any other European capital.

—It appears that in order to practice in the Klondike region, physicians will have to pass examinations before the Board of Examiners of the Northwest Territory (not British Columbia) at Calgary. Dr. Britt, N. W. T., is registrar, and the law is to be strictly enforced.

—Dr. L. D. Bulkley says that for some time past he has prescribed ichthyol by the mouth, 10 to 15 drops, in capsules, three times daily, and finds that this, through its action on the liver and intestines, will cure nearly every case of hemorrhoids. In fact, he looks upon its internal use as a specific.

—A new degree has been created by the council of the University of Paris, namely, that of "Doctor of the University of Paris." It will be granted to students of science or of medicine on similar conditions to those for the German Ph. D., *i. e.*, the composition of a thesis embodying original research.

—Bicycles belonging to physicians have the right of way in the streets of Augsburg, Germany. The bicycle carries a Red Cross shield, so that the rider's profession is known to all, and much good has already resulted from the custom, it is stated, in securing prompter assistance in accident emergencies.

SOUND LOGIC.—"I guess I will accept Mr. Richleigh," said young Dr. Ethel Jones to her mother. "But I thought you did not care for him," said the mother. "Neither do I," was the reply; "but I took a skiagram of his lungs and he can't live more than five or six months and I know of nothing more desirable than to be a rich young widow."

—A talented writer in the *American Journal of Psychology* for April, treating of "The Early Sense of Self," remarks that "In very early infancy the propensity to clutch the hair or beard of adults, and especially, having grasped it, to cling with almost convulsive intensity, suggests the obvious atavistic relation to the necessity for anthropoids of arboreal habit to cling to the shaggy sides of their parents."

—According to Mr. A. W. A'Beckett, assistant editor of *Punch*, the central idea of the hypnotic influence exercised by Svengali, in Du Maurier's celebrated novel, was founded on a case reported in the *Lancet* some forty or fifty years ago. "No less a person than the famous Jenny Lind was able to cause a factory girl without any musical education to sing like a sister nightingale," says Mr. A'Beckett.

—The following is recommended by a German professor, as a rapid, cheap and effective way to sterilize drinking-water for armies, on board ship, in unhealthy localities, and for medical and surgical purposes: To a gallon of the water add, first, three drops of the following solution: Water, 100 parts; bromine, 20 parts; potassium bromide, 20 parts; and then after five minutes, three drops of a 9 per cent. solution of ammonia.

—A German journal states that after a long search, Prof. Gerold, of Halle, has found the means of neutralizing the action of nicotine in cigars. During the process of manufacture the leaves of tobacco are steeped in a decoction, the principal element of which is wild marjoram (*origanum vulgaris*). Gerold claims that by this means the deleterious effects of tobacco are avoided, and yet the quality and aroma are not altered.

—In cases of pregnancy, complicated with grave cardiac insufficiency, Dr. Jewett, of Brooklyn, maintains that delivery, whether at or before term, should be under chloroform anaesthesia. The anaesthetic reduces the muscular strain, and therefore the engorgement of the right heart, and it also relieves the shock. Under chloroform the cervix can be dilated without risk, and prompt forceps delivery will much lessen the overstrain of the heart.

—Dr. Zambaco, in the *Lyon Medicale*, states that he does not believe leprosy is contagious. More than 400 lepers, he says, circulate freely in the streets of Constantinople and are engaged in all kinds of trade, yet they don't appear to give the disease to the inhabitants of that city. Among these 400 lepers some have come from the regions of the Turkish Empire where leprosy always exists, and others are Spanish Israelites who have settled there since the time of the inquisition in Spain.

—A correspondent writes to the *British Medical Journal* recommending the use of motor tricycles by medical men in country practice. Petrol or doubly distilled benzoline is the oil used, and it costs about 24 cents per 100 miles to operate the tricycle. The speed can be regulated anywhere between four and twenty miles an hour by means of a small lever immediately in front of the rider. Any ordinary hill can be climbed by it, but a little pedaling is necessary to ascend a very steep incline.

ORIGINAL ARTICLES.

ASEPTIC TECHNIQUE OF MINOR SURGERY. *

By W. J. Means, A.M., M.D., Columbus, O.,
Surgeon to Protestant Hospital; Professor of Principles and Practice of Surgery, Ohio Medical University; Member of American Medical Association, etc.

WITH the promulgation of the theory of germs as the disturbing factor in wounds, and the treatment of these disturbances predicated upon the idea of destroying the germs by the use of germicidal solutions, there dawned upon the surgical world a new era. Listerism, which was, and now is, synonymous with antisepsis and asepsis, gave to the profession an impetus in surgery that has led to achievements that seemed incredible even a decade in the past. While the original idea of Lister remains as the fundamental principle of modern aseptic technique, yet in the evolution of the theory, sprays, vapors and medicated solutions have been relegated largely to the past, and a better, more practical, and more scientific method has been adopted in modern asepsis.

In this evolution we find that the profession, generally, has kept apace with the investigators, and has been ready to adopt each and every new method that promises something better than the old one. I confess, however, that in the kaleidoscopic changes taking place, the physician becomes confused and is often in doubt in making a selection, whether this method or that one is the better. It is not for the purpose of proposing any new or advanced ideas in asepsis that I have chosen this subject, but rather to show that the aseptic technique of minor surgery, as done by the general practitioner, does not compare favorably with the major work done by the special surgeon in the hospitals; and, further, to insist that just as careful and thorough asepsis should be done, *and can be*, by the general practitioner as by the specialist. The only requirements are a practical knowledge of the principles of asepticism, and a willingness to comply with the necessary steps to carry them into practice. There is a wide and profitable field for the general practitioner who is willing to study the principles of modern asepsis and apply them intelligently in his general work. One of the first and most important things to do is to unlearn the lesson seemingly so well learned, that the germicidal potency of medicinal solutions is all-powerful to prevent infection. The physician who dresses a wound or amputates a finger with unclean hands, unsterilized instruments and dressings, depending upon a solution of bichloride of mercury or carbolic acid, made with unsterilized water, to destroy the microbes, certainly does not comprehend the true meaning of asepticism, and over-estimates the potency of these agents. To fully grasp the modern idea of sterilization and disinfection, it is well to understand the difference between antisepsis and asepsis. The one is rendering the wound sterile by the use of germicidal solutions, and the other, sterilizing the wound by removing the germs with soap and water or by any other mechanical agent that will thoroughly cleanse. Both methods have the same end in view--that of disinfection, but differ widely in their application. The aseptic method is practically prophylactic. It does away with the irritating agents that so frequently prove destructive to the tissues, thus defeating primary union, even when the germs are destroyed. Antisepsis as applied by many physicians cannot be condemned too strongly. Attempts toward sterilizing a wound or field for operation, hands, dressings, instruments, etc., with solutions of chemical agents that are safe to the tissues, are, in the light of modern bacteriology, absurd and unscientific.

To approach the treatment of wounds or an operation in an intelligent manner, the physician must have a clear understanding of the role played by micro-organisms in the disturbances that may arise therein, their methods of entrance, their propagation and their destruction. Without such knowledge the physician should turn away from wounds and leave the scalpel untouched.

In the treatment of every wound there are three elements to be considered—the tissues, the blood and specific irritants. The tissues compose the parts that make up the anatomical formations. With the full understanding that each tissue is reproduced by its own cells, there can be no mistake in preparing the parts so that coaptation of like structures will be made. The repair of tissues by cell proliferation does not come within the scope of this article, and I therefore have mentioned the above facts merely as incident to the first step towards obtaining primary union. The physiological function of the blood in the repair and protection of wounds is an interesting and important study. The blood supplies the nutritive elements necessary to regeneration, and at the same time through its leucocytes and current furnishes defenses against the invading germs. These properties of the blood can be profitably studied in relation to the aseptic management of wounds. The phagocytic action of the leucocytes is a theoretical subject for the histologist and the discussion of which is scarcely admissible here. Concerning the mechanical properties, it is well known to operators that as long as there is a flow of blood from a wound there is not much danger of infection. While this is true, the converse is also true, that a stasis of blood will furnish a germinating medium for the propagation of germs.

Under specific irritants I will class the bacteria that produce the condition in wounds known as inflammation, and subsequent necrosis. Suppuration is the product of the war waged between the germs of invasion and nature's guardsmen and represents the death of the combatants. When the surgeon is called upon to treat a wound or to make an operation, his first care should be to render the parts entirely aseptic, or, in other words, entirely free from irritating microbes. To do this, he should have an intelligent idea—First, of the virulence of the different forms of bac-

* Read before Ohio State Medical Society.

teria; second, the effect of association of bacteria with other matter; third, of the hereditary influence over bacteria, which covers the ground of immunity both acquired and natural; fourth, of the effect of the environments and personal habits of the patient upon bacteria. These propositions I make suggestively for further investigation, as materially affecting the results of all surgical operations. The sources of bacteria should be well understood. An operator who ignores the fact that certain portions of the body are nursery beds for virulent bacteria, and takes no special precautions against them, is liable to get infection because of his negligence. Operations upon the toes, in the axillae, about the mouth, ears, etc., are liable to be followed by infection, unless extra care has been taken. The skin has bacteria to "the manor born." Therefore, the necessity of careful attention, even in parts not specially adapted to their culture. Other sources of infection are from contact, such as the hands of the operator, instruments, and dressings. Infection from the atmosphere is not as potent a factor as supposed to be in the past, and yet the danger from dust-charged air should not be ignored. Recent experiments show that the breath of the operator may be a source of infection; hence the face mask advocated by some surgeons.

The subject of auto-infection or intoxication should be carefully studied. Every abdominal surgeon understands the danger from the intestinal tract being filled with fecal matter, and therefore has the bowels thoroughly emptied before an operation, and again thirty-six hours after the operation. I merely call attention to this subject as a factor, and leave the question as to the probable sources and production of these auto-intoxicants to be investigated by the hearer.

With a practical knowledge of the sources of infection, the defenses against the invasion of micro-organisms are better understood. Nature has provided some natural defenses that the physician should know and respect. The epidermis is one of them, and should be carefully preserved; especially is this true in subcutaneous wounds, contusions, burns, scalds, and subacute inflammatory troubles. This leads me to deprecate the use of any irritating or escharotic agent in sufficient strength to destroy the epidermis, in the treatment of the troubles before mentioned. When the epidermis is removed, the absorbents are open for the entrance of germs that may lead to almost direct infection of the injured parts. In subacute inflammatory troubles, especially of the joints, a non-purulent condition may become purulent in a short time, from the use of blisters, or other agents that destroy the epidermis and open nature's highways for the invasion of the enemy. The blood, as mentioned above, makes a natural defense. The mechanical defenses are soap, water, brush, towels and sterilized dressings. In the sterilization of wounds, or in preparing the field for operation, the purpose is that of absolute cleanliness. This cannot be too strongly emphasized. To cleanse a wound or the field for operation thoroughly, requires the use of pure soap, boiled water, sterilized vessels, basin, brush and towels. I seldom use any other soap than the tincture of green soap. It is pure and efficient. Much of the soap on the market is made by the cold process, and is not pure. Boiled water can be obtained in a few minutes, and in it the implements used can be sterilized before beginning the cleansing process. The question is often asked, "How can we determine when the parts are sterilized?" It is a pertinent one, and the only scientific way to answer it is by *bactertological tests*. This is not always practicable in an office, so we must determine by sight and experience. The results in a given number of cases treated in a certain manner establish the value of the method and form a basis from which correct conclusions can be drawn. The length of time devoted to washing is problematical. More depends upon the vigor of the workman and implements used, than upon the time. One surgeon, by an intelligent application of brush, soap and water, can sterilize his hands, a wound or field for operation in one-fifth of the time that another can who uses these implements in an indifferent manner. A practical suggestion that materially affects the ultimate results occurs to me here. This suggestion is, wash the hands, or other parts mentioned, in running water. The ordinary method of dipping the hands or brush into the bowl, soon renders the water unclean. This suggestion pertains to washing the wound as well. The question of using some antiseptic solution to finish the cleansing is an open one. In minor surgery I doubt the utility of such a course. My objections to their use are, the irritating effects on the tissues, if used in sufficient strength to act as a germicide. If they do not kill the germs, then they are useless. In order that the hands of the surgeon may be thoroughly and easily cleansed, the skin should be smooth. After using these irritating washes the skin often becomes very rough, and therefore catches dirt easily and is hard to cleanse. Another serious objection is the chemical combination formed with the dirt and blood, making inert compounds.

During the washing the nails should receive considerable attention, owing to the fact that germs find a congenial soil under the projecting parts and around the margins. It is necessary to use a nail cleaner, followed by a stiff brush. If an antiseptic is used as a final cleansing agent, the following chemicals or germicides are the favorite ones: A solution of permanganate of potash was a favorite wash for a long time, but I believe it has largely gone out of use. Carbolic acid has been used a great deal, but owing to its unpleasant effects upon the skin it is not very popular, and certainly of no particular benefit. Bichloride of mercury is perhaps the most popular antiseptic, but its use is more from habit than from any substantial germicidal properties it may possess. The latest antiseptic wash knocking for admittance is the chloride of lime in connection with sal. soda, as suggested by Dr. Wyeth in a recent issue of the *Medical Record*. The results may be all that are claimed by the writer, but it occurs to me that the offensive odor is a serious objection to its use in general practice.

The foregoing suggestions apply also to cleansing the wound or field for operation. Towels moistened in a one to one-thousand solution of bichloride of mercury, placed around the parts are admissible, and perhaps useful. They serve to protect the operator's hands and the instruments from coming in contact with unsterilized clothing.

After a consideration of all these different methods we come back to the aseptic idea, and obtain asepsis through the use of soap and water as suggested. For all practical purposes in minor surgery, nothing more is needed.

Sterilization of instruments is not such a difficult matter, and yet one that is quite as necessary as cleanliness of the hands. If instruments have been thoroughly cleaned, they can be sterilized in a few minutes in boiling water. It is a matter of choice whether they be put in an antiseptic solution or not, during the operation. In office work, or in general surgical work, outside of the operating room, it may be safer to keep the instruments in a 3 per cent. solution of carbolic acid, thereby avoiding infection from contact with unsterilized surroundings. All this is predicated upon the instruments being well cleaned before sterilizing. Such suggestions would scarcely be applicable in a hospital, where nurses are trained to look after the instruments, but the converse is true in the physician's office.

Sutures and ligatures are an important part of the armamentarium and require considerable care in their selection, preservation, and sterilization. The best material for sutures for the general physician is silk or common thread. It is claimed that the Chinese braided silk is the proper material, but in my general work I have found that the common linen thread is just as good and is decidedly cheaper. The thread should be put on small wooden spools and kept in alcohol. When a suture is needed, sufficient material for the operation can be removed from the spool and put in the pan with the instruments and receive the same boiling. Owing to the fact that frequent boiling in water weakens thread, it is economy to prepare only enough for each operation. It is not always convenient to carry a jar containing specially prepared suture material. Under such circumstances I use the raw material after it is thoroughly boiled, and have had no reason to be disappointed.

For ligatures, I prefer catgut, but inasmuch as it is a very difficult matter to keep it sterile, even in the best appointed operating rooms, I suggest the use of that prepared by dry heat (Boeckmann). It is economical if used alone for ligatures, convenient to carry, and reliable.

No other suture or ligature material need be considered. Silver wire, silkworm gut, and kangaroo tendon are all valuable in special work, but for minor surgery they are not needed.

The next important subject is dressings. The physician should have a definite and fixed idea about the purpose of dressings. The old idea that they contain healing powers has long since been abandoned. Dressings are for protection, immobilization and absorption. Therefore, in selecting dressings, these properties should be alone considered. Plain gauze prepared by the manufacturer, absorbent cotton, muslin bandages, and flexible collodion fill the requirements. These should be sterilized before using them. No physician should be without some kind of sterilizing apparatus. It need not be complicated. Martin, of Chicago, in his little work on the treatment of uterine fibroids describes an apparatus consisting of a stand containing seven large test tubes, two inches in diameter and eight inches in length. Gauze can be placed in these tubes, also cotton and other materials that should be sterilized. The mouths of the tubes are filled with cotton, and the stand placed in a sterilizer or into an oven of any ordinary stove. The material thus treated will remain sterile for some time, especially if a rubber top be slipped over the mouth of the tubes. If iodoform gauze be used, it should be subjected to the same process. It is well to remember here that the medicated gauzes put up by the manufacturers do not remain sterile after being opened. Physicians who pin their aseptic faith to iodoform gauze as it is taken from the commercial jars, for a sterile dressing, are liable to be disappointed. Except in tubercular patients, the use of iodoform gauze is useless.

With an apparatus as devised by Martin, sterile dressings can be kept. Subsequent dressings of wounds should be made with just as much care as the primary ones. With this fact in view it becomes almost a necessity that some sterilizer be used. Sponges are an important part of the surgeon's armamentarium. I never use any other material for sponges in office practice than absorbent cotton. I find it efficient, clean and economical. The sea sponge is a dangerous material. The barbers have found it out, and seldom use it on the face of their customers. The physician should certainly be as wise as the barber. I was surprised to see sponges used almost universally by the surgeons in London.

Antiseptic powders are "a deluson and a snare," and should never be used on fresh wounds. I might add that Schede and several other prominent surgeons of Germany are using "airol," a compound of subnitrate of bismuth and iodine on fresh wounds. It is non-irritating, antiseptic and astringent. They perhaps have a limited field of usefulness on granulating surfaces. A very good antiseptic dressing, if such should be desired, and one that is practical, is to saturate the gauze after it has been placed on the wound with a fluid composed of 80 parts of boracic acid, 15 parts of glycerine and 5 parts of alcohol. This fluid acts as an antiseptic, and if made sterile by boiling, makes a good protective agent. It conforms the dressings to the wounded surface and the glycerine prevents the gauze from adhering, and maintains hygroscopic properties. Protective material, such as rubber, oiled paper or silk, should not be used over the dressings; they prevent the evaporation of the discharges from the wound and the skin, and thereby produce a moisture that may be a nursery for the growth of the bacteria. In minor surgical operations about the face, where the field is entirely sterilized, one of the best dressings is flexible col-

lodion. In plastic operations about the face or head it is very desirable to avoid cumbersome dressings, and at the same time protect the wound. I frequently close wounds about the face with a subcuticular suture and then apply collodion. There is no advantage in adding iodoform to the collodion.

My purpose in this paper has been to outline a practical aseptic technique for the general physician, who is called upon almost daily to dress some trivial wound or perform some minor operation in his office. I believe that with a clean wound, and a clean field for operation, clean hands, instruments and dressings, minor surgery can be done just as successfully in a physician's office as in any well appointed operating room. I have no hesitancy in doing plastic operations in my office, such as skin grafting, hare lip, etc. These are regarded as being very susceptible to infection, and hence require the most careful asepsis.

In conclusion, I will summarize the ideas that I wish to emphasize in the foregoing article.

First—A general knowledge of the micro-organisms, their life histories, and relations to wound infection is necessary as a preliminary step to aseptic and antiseptic treatment of wounds.

Second—That germicidal solutions are powerless to render septic wounds sterile.

Third—That thorough washing with pure soap, sterile water and clean brush and towels is the only way to render a wound or field for operation sterile.

Fourth—That dressings, ordinarily, should have for their purpose protection, absorption and immobilization, and should be sterile rather than antiseptic.

Fifth—That antiseptic powders are not sterile and therefore should not be used on fresh wounds.

Sixth—That medicated gauzes become infected after exposure and if used at all should be resterilized.

SPASMUS BRONCHIALIS OR ASTHMA.—ITS CAUSES, TREATMENT AND PROPHYLAXIS.

By J. Adelphi Gottlieb, M.A., M.D., LL.D.,

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ASTHMA, from *Ασθμαζω—to gasp for breath.* A rather ambiguous designation for a scientific term by which various forms of attacks of dyspnœa are known.

This disease may properly be regarded as a true neurosis of the respiratory apparatus, dependent upon the existence of a peculiar diathesis; may be *idiopathic* or *spasmodic*, and uncomplicated; or *organic* and *symptomatic—e. g.*, where it is symptomatic of some disease of the nervous system, alimentary canal, heart, lungs or even the skin. The phenomena is dependent upon tonic contraction of the circular muscular fibers of the bronchial tubes, paroxysms being induced by *direct* or *reflex* mechanism; may be *central*, in the *medulla oblongata* or in the *pulmonary* or *gastric* portion of the pneumogastric. For convenience in diagnosis the following classification will prove serviceable:

I. LARYNGEAL.

II. BRONCHIAL.—*Spasm or paralysis* of muscular fibers of bronchial tubes.

III. CARDIAC.—Caused by or associated with diseases of the heart.

IV. HÆMIC.—Abnormal state of blood or circulation.

V. DIAPHRAGMATIC.—Spasm of diaphragm or respiratory muscles.

IDIOPATHIC CAUSES.—*Direct Inhalation.* (a) Obnoxious or irritating gases or vapor. (b) Dust, smoke, odor of certain flowers—*e. g.*, roses, "rose asthma"; hay, "hay asthma." (c) Conditions of atmosphere, fog, dampness, dry air or cold wind.

ORGANIC.—*Direct irritation.* (a) Bronchitis. (b) Bronchial catarrh. (c) Emphysema. *Cardiac disease.* By pulmonary congestion. *Gastric.* Following the introduction of certain kinds of food into the stomach: (1) Indigestible matter; (2) Stimulants—wine, liquor, etc.; (3) Excessive sweetness—as candies, jellies, rich preserves, etc.

CENTRIC.—Accompanying hysteria or violent emotion, or from organic diseases affecting the roots of the vagus nerves.

REFLEX.—Diseases of the nasal cavity causing reflex irritation exciting asthma—as enlargement of erectile bodies of turbinated bones, polypi, chronic nasal catarrh, etc; uterine derangements, hardened faeces in the rectum, hemorrhoids, sudden application of cold to the skin, etc.

PREDISPOSING CAUSES.—Hereditary predisposition appears to have some influence in about 50 per cent., and most likely due to constitutional idiosyncracy. More common in males than in females. Attacks are known to commence in the first few weeks of child life; though no period of life is exempt from it, the complaint increases in frequency from the twentieth to fiftieth year. Children show a general tendency to "outgrow" the complaint at puberty.

UNCOMPLICATED ASTHMA.

DYSPNŒA.—Fit occurs suddenly without warning, usually a few hours after midnight.

RESPIRATION. — Wheezing, inspiration short, abrupt and jerky.

POSTURE.—Sitting with arms braced and mouth open.

FACE.—Anxious, either red or livid, eyes staring, lips purple.

EXTREMITIES.—Cold, shrunken and blue—overloading of venous system and deficient aeration of blood.

TEMPERATURE.—On surface often falls to 82 F.

PULSE.—Small and feeble, sometimes irregular.

EXHAUSTION.—Always extreme after the attack has subsided.

COUGH AND EXPECTORATION.—Usually after the attack, may consist of mucus, or be profuse and watery. Sometimes hemoptysis oc-

curs, usually very slight, but may be considerable, depending upon the severeness of attack and complications.

DIFFERENTIAL DIAGNOSIS.

If the rational and physical signs are properly understood and appreciated it is not likely to be confounded with any other disease; the affections which somewhat resemble it are:

(a) LARYNGEAL SPASM.—Distinguished from same by the absence of characteristic change in voice, etc.

(b) BRONCHITIS.—By the suddenness of its advent, slowness of respiration, the absence of pyrexia and subcrepitant rales.

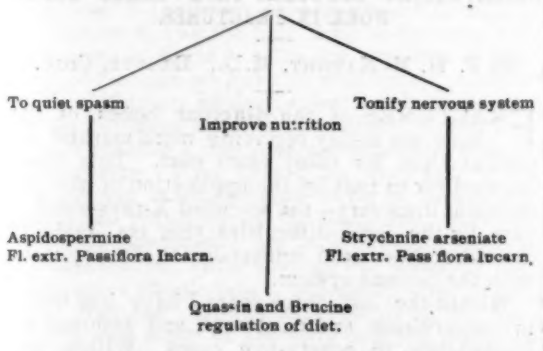
(c) PULMONARY OEDEMA.—We find dullness, liquid and bubbling, in asthma extra resonance and changeable dry rales.

(d) EMPHYSEMA.—Barrel shaped chest and change in the position of the heart; absent in asthma.

(e) ANGINA PECTORIS.—We have lancinating pain, intense and agonizing; no sibilant or sonorous rales; pain absent in asthma.

Conditions most likely to be mistaken for asthma are latent pericarditis in the aged, accompanied by spasmodic dyspnoea. Here we have irregular pulse, obscure heart sounds, diminished cardiac impulse and absence of rales; asthmatic dyspnoea and cardiac dyspnoea somewhat resemble each other—both are paroxysmal, both are intense and usually occur at night; but careful physical examination will determine any cardiac lesion.

TREATMENT.—Two cardinal points must be considered in the treatment of this affection: (1) *We must first relieve the paroxysms and* (2) *then prevent their occurrence.* The treatment which have found most successful in this disease, in both hospital and private practice, rests upon the following tripod:



When the case is seen during the paroxysm, place the patient under the most favorable conditions for relief; remove obstructing garments, source of irritation, and select the most comfortable position, usually sitting in a chair with the arms supported to raise the shoulders (*but in most instances in adults it is best to let the patient choose the position which they find most convenient*).

Of immediate importance is the relieving of the paroxysm, and in this I have invariably succeeded in 80 per cent. of cases—it mattering not whether the dyspnoea is bronchial, cardiac or nervous—by administering two to four granules* of aspidospermine, gm. .001—1.67 grain—each and fl. extr. passiflora incarn. every ten to fifteen minutes until relieved. If complicated with cardiac lesions give either glonoin, gr. 1-250; sparteine sulph., gr. 1-67; convallamarin, gr. 1-134 or cactin, gr. 1-134; dependent upon the indications and severity of the lesions to be coped with; this much for the emergency treatment to relieve this distress. For particularly severe cases which have resisted the above mentioned remedies during the height of an attack, the following has always relieved the most distressing paroxysms:

℞ Morphine mur. .....020 —1-3 grain
Ext. cannabis indica. ....032 —1-2 "
Nitro-glycerin .....0004—1-150 "
Ext. hyoscyamus. .....065 —1 "
Ol. res. capsicum } aa. ...032—1-2 "
Ol. peppermint }
Fl. ext. passiflora incrn. 30.000— ℥ 1

M. et sig.—A teaspoonful until relieved (every ten minutes).

The efficacy of the above prescription is undoubtedly due to and aided by the passiflora, as it will be noticed the doses of the other drugs are very small. Opium and morphine, however, have proven injurious in my hands, for if given without combining with other antispasmodics only full doses are of any avail, the relief being only temporary, predisposes the patient to frequent and continued attacks. My experience prompts me to discard it when the hope of a permanent cure is in view. During the interim, when the patient is free from the attacks, after the dyspeptic and other attendant complications are cured, continue the administration of passiflora for a long time in gradually diminishing doses to prevent a return of paroxysms and to clinch the cure. For this I give the following:

℞ Fl. ext. passiflorae incarn. 60.00
Elixir calisaya ad. q. s. 180.00

M. et sig.—A teaspoonful t. i. d.

MATERIA MEDICA.

Aspidospermine, *standard granule, gm. .001—1-67 grain each.*

An alkaloid from the bark of aspidosperma queracho-blancho, a large tree of the nat. ord. Apocynaceae. Chem. compos., C_{22} H_{30} N_2 O_2; amorphous brownish powder; bitter taste; alkaline reaction; sol. in alcohol and ether.

THERAPEUTICS.

This drug is used in dyspnoea, asthma, spasm, croup, etc., and has been called the "digitalis of the lungs." It improves the appetite and increases the digestional functions, lowers cardiac action, renders pulse and respiration less frequent, acts as an expectorant by increasing osmosis from the inflamed mucous membrane. To be given whenever the pa-

*This being the form in which the drugs used by dosimetric practitioners are put up by various manufacturers, in standard granules containing minimum doses of the active principles, chiefly the alkaloids, they being accurate, chemically inalterable and dynamically constant, this will at once commend itself as being the most elegant, safe and sure way of exhibiting medicines.

	tient feels a fit of dyspnoea coming on.
Strychnine arseniate, gm. .0005; *standard granule, 1-134 grain.* Strychnine....72.5 p. c. Arsenic.....12. " Water.....15.5 "	This is the best general tonic we possess; acts as a stimulant through the nerves and revivifies every function of organic life. If the debility following an attack is severe it should be given every 15 minutes until effect, then as a general tonic one granule four times daily.
Quassin, *standard granule, gm. .001—1-67 grain each.* From quassia, the wood of picroena excelsa, a large tree of the nat. ord. Simarubeae, of West Indian Islands. Chem. compos., C_{21} H_{24} O_6; intensely bitter; soluble in alcohol, slightly in water.	A bitter stomachic tonic increasing the flow of gastric juice, improves appetite, acts as an admirable tonic. Dose: One to five granules dissolved in a little water before meals.
Brucine, *standard granule, gm. .0005—1-34 grain each.* Companion alkaloid with strychnine in nux vomica; physiological action similar but much milder.	Alternate with quassin according to indications and effect desired. Dose: One to three granules before meals.
Passiflora incarnata, fluid extract. Made from passion flower or May-pop; native of South America and the lower States of North America. A climbing plant, having fruit the size of a goose egg; blooming early in the spring and ripening in July. Medicinal properties: General nerve sedative, antispasmodic, etc.	This remedy produces a natural sleep, but is not narcotic; the sleep, being calm and peaceful, patient can be aroused and attend to regular routine as in normal physiological sleep. As an antispasmodic it has been used with particular success in tetanus, chorea, some practitioners claiming it to be almost a specific for the aforesaid complaints. Dosage: To be given in doses from five drops to a dram or more according to the conditions and indications of the case; may be repeated every 15 minutes until relieved in acute spasmodic affections or half dram diluted with water t. i. d. in chronic cases and during the interval of the asthmatic attack.

HYGIENIC CONSIDERATIONS.

It must be borne in mind that complications and contributory diseases must receive proper and intelligent care of the physician as is suitable to the individual case in hand in conjunction with the afore outlined treatment. This done, rest assured that you are doing the best to cure your patient.

Regulate diet as most suitable to the case, possibly adding as auxiliary some of the many valuable proprietary preparations as, Bovinine, hemaboloids, Panopepton, etc., if anaemic conditions exist, which is generally the case.

If the stomach contain undigested food, give an emetic if advisable.

If the rectum be loaded, give an enema.

Inhalations of chloroform and ether, as recommended by some authorities and as administered in some hospitals, are of doubtful value. True, patients get relief while inhalations are continued, but invariably upon awakening the paroxysm returns with increased violence.

If in a certain locality the attacks of asthma are more frequent than in others, have the patient removed to the district where he is free from asthmatic attacks; not infrequently has this been all that was necessary for entire relief. Change of residence is beneficial, particularly in cases that can be traced to atmospheric influence as the cause. No definite rule, however, can be laid down as to what climate to choose; each patient must decide for himself by experience the locality in which he is most free. Some asthmatic patients are usually better in the impure atmosphere of crowded cities; others again are markedly benefited at the seashore, while still others derive most benefit from high inland.

OBSERVATIONS DEDUCTED FROM THREE YEARS' WORK IN FRACTURES.

By F. H. McNaught, M.D., Denver, Colo.

FRACTURES of the different bones of the body are to-day receiving more marked attention than for many years past. This is accounted for in part by the application of the late scientific discovery—the so-called X-rays—and in part by the legal difficulties that are liable to overtake those who undertake to do any work with the osseous system.

Within the last three years I have had under my supervision and treatment, and assumed responsibility, in ninety-five cases. Within this series can be found fractures of nearly every bone of the body. Twenty-five cases were associated some complications—that is, they were either compound, comminuted or complicated. Two deaths are recorded; one from fracture of the spine, the other following a crushed, mangled leg. All but four of these cases have been discharged, and, as far as I am aware, no complaint has been entered as to the results. The outcome of each individual case has been good; useful limbs, with very little deformity, have been obtained in all of the cases.

Now, what are some of the essential points that lead up to these results? First, we must have the complete control and confidence of our patient; second, the recognition of the form and location of the fracture should be obtained; third, we should have a correct knowledge of the principles of treatment. As a preliminary to any other consideration it is necessary that we should have the confidence and control of our patient. Without this, the satisfaction we should have in our care of the case is gone, and the patient is continually giving us suggestions we do not require or admire.

The question of having our patients sign a contract releasing us from any responsiblity that may arise as a result of any defeat in the injured member has, I understand, received some attention. Legally, I am informed that a release contract does not give us the protection we might hope for. Personally, I do not believe in anything of this kind; it borders on the commercial transaction, and would lower the standard of medical respect. Rather let the people understand that our best service has been extended to them, and that all has been done that could have been done; and that if any defect remains it is not on account of the treatment or lack of treatment, but the natural sequence of their injury. Consultation in many of our fracture cases seems advisable. It gives confidence to patients to more firmly establish the line of treatment, and tends to protect ourselves from any reflection regarding the outcome of the case.

Paramount to any other consideration it is necessary that we should have so complete a knowledge of the form and location of the injury as it is possible to obtain. For the past three years some questions have been evolved that are asked of every patient who comes under my care. It is not necessary for me to enumerate them, yet in each case I think we should go far enough in the history to find the true cause of the injury, as very often it helps to solve the problem of what form of fracture we have to deal with. Another point—I think it advisable that nearly every case should be placed under an anaesthetic for the purpose of making a complete, thorough, and concise examination. Care should be observed while making our manipulations under an anaesthetic that we do not aggravate the condition. Any unnecessary movements are to be avoided, as it is possible for us, while making our examination, to change a simple into a compound or a complicated fracture. Undue movements of the fractured points must of necessity produce injury to the surrounding soft parts, and it is not without the range of possibility for us to perforate a blood vessel or sever or injure a nerve. Nor is it advisable for us to so circumscribe our examination that we do not properly make out the injury. Usually we have many symptoms that indicate to us the form and location of the fracture, commonly classified as objective and subjective.

The objective are the ones which we usually rely on for our diagnosis; and of these the three most essential are abnormal mobility, crepitation, and deformity. These three symptoms, when well marked, can only be confounded with epiphyseal separation, which in reality is a fracture. While these three symptoms, taken *en masse*, are pathognomonic of fractures and are rarely lacking in the shaft of the long bones, we should remember that where the lesion is found close to the extremity of the bone any one of them may be absent.

In two of my cases the fracture occurred at the knee end of the tibia, and it was only after much careful examination that the line of fracture was demonstrated. In both of these slight crepitation and abnormal mobility were present without deformity. Yet very few cases present themselves without deformity in some degree. The question of tissue deformity without bone lesion should always be considered. Deformity, again, often indicates the character of the fracture—that is, whether it is a transverse, oblique, or longitudinal separation. Comparison of the point in the body opposite to the one injured helps us in our examination and should also be considered. Comparative mensuration is of great value in assisting us in our conclusions, especially in fractures of the shaft of the long bone.

Of the subjective symptoms the two most important ones are pain and loss of function; yet the same value cannot be placed upon either one of them as was the case prior to the general use of anaesthetics.

Three points are embodied in the principles of treatment: first, proper reduction of the fracture; second, to prevent redisplacement; third, immobilization.

Upon a proper reduction of the displaced bone depend almost entirely the results of simple fracture. My experience inclines me to the belief that should any unsatisfactory results be obtained in this class of injury, they would be due very largely to an improper appreciation of this point. Splints should be applied solely for the purpose of preventing redisplacement rather than for correcting them. The bones of nearly every part of the body can now be satisfactorily photographed, or observations taken of them through or with the aid of the fluoroscope, so that, if a question arises as to ability to properly adjust a fracture, it is better we should take advantage of this modern discovery.

The application of splints, with the manner of applying extension and immobilization, is a subject so extensive that the present time will not allow of its thorough discussion. We should acquaint ourselves with the many instruments and appliances that have been devised and used, and especially with the principle of their application. The man doing work of this kind should develop some mechanical genius, then with the proper anatomical knowledge of the parts he will be able to evolve his own treatment. In the successful treatment of compound and complicated fractures are to be found the principles of modern surgery in all their minutiae. The severity of the case usually depends upon the extent of the injury to the soft parts, rather than upon the bone lesion. Also the size and condition of the wound determines the treatment.

In nearly every case of this kind, I assume that I have a septic wound to deal with. It is cer-

tainly a safe rule to follow, as the results have shown.

Within the last three years it has been my province to have placed under my care many dirty, ragged wounds associated with bone lesions, usually fractures, and in nearly all of these cases I have been happily disappointed by the good results obtained. Simply cleansing the wound with antiseptic solution will not always accomplish what we wish.

Injured necrotic tissue should receive some attention. It is a well-known fact that the pathological micro-organisms find a fruitful soil for multiplication and growth in the tissues that have been bruised, contused, and lacerated. We should not only thoroughly cleanse the parts by soap and brush, but we should see to it that any tissue-structure so mutilated that its vitality is questioned is removed. Blood vessels and nerves should receive the attention that they deserve. The divided nerves should be approximated and sutured. Blood vessels should be ligated at both their distal and proximal ends. Bone splinters not attached to the periosteum should be removed, and the broken ends of the bones placed in apposition.

At this time a point that is often overlooked should receive attention, *i.e.*, the torn periosteum should be placed in its proper position and sutured. It is now recognized that much bone reformation takes place from the membrane, and by placing it in the proper position in regard to the bone lesion we will be less liable to have non-union. Another reason why the periosteum should be replaced and sutured, is that should sepsis occur the infection would be less likely to affect the broken fragments. It is of great importance that these compound fractures be rendered sterile; then, if we feel sure that this has been accomplished, they should be closed by deep and superficial sutures, dressing aseptically. But if we are not quite positive in regard to our asepsis it is better to close only in part, draining from the most dependent point, and dressing often if the drainage is not most complete.

As to prognosis—the immediate and remote results of fractures are of the most vital importance. Medico-legal questions are so often raised, and litigation so often propounded, that the cause and result of this class of injury should receive our special attention. Predisposition to certain troubles, acquired systemic disease, and previous injury should have our consideration before giving an opinion regarding the outcome of each case. Even during our first visits, often before our diagnosis is complete, we are importuned by the patient and relatives for an opinion regarding the outcome of the injury and especially in regard to the future utility of the injured member. Great tact and circumspection should be used so as not to compromise ourselves by too optimistic promises, nor should our expressions be so pessimistic as to give undue alarm or discouragement.

I think I am safe in saying that a positive opinion cannot be safely given regarding the outcome of any case of fracture. Pathologists tell us that normal histological bone structure, once destroyed by disease or traumatism, is never reproduced, and that fractured bones are never returned to their original condition. A broken bone may fail to unite through no fault of treatment. Atrophy of the muscles may be permanent. Nerve lesions not recognized at the time of injury may be the source of much future disturbance. Anchylosis of either true or false type may develop and produce much trouble. If this anchylosis follows as a result of inflammation, the parts should in time be returned to their normal condition; but if it is due to bone disturbance or deformity either in or about the joints proper, only limited movement should be expected.

The form of anchylosis that has given me much anxiety before its true cause was recognized is that due to muscular rigidity. A typical and extreme case of this form of anchylosis will illustrate this point:

M. M., approximate age 40, thrown from heavily loaded wagon, wheel passing over left arm at the junction of the humerus and ulna; came under my care about twelve hours after injury. At first examination diagnosis could not be satisfactorily made on account of the extreme swelling in and about the parts. Arm was placed on a pillow and allowed to rest for three days, when the swelling gradually subsided. Then under an anaesthetic it was easily demonstrated that we had a fracture of the internal condyle of the humerus. The arm was placed in splint at an obtuse angle with the fractured bone in proper position. At the end of five weeks passive movement was attempted, yet without accomplishing much. Effort to produce movement was continued for one or two weeks, yet was unable to extend or flex the arm to any great degree. At the end of eight or nine weeks no progress seemed to have been made. He was advised to carry weights, with the object of producing complete extension; this also had no effect. Frequent examinations failed to show any displacement of the bone that might cause this rigidity. At last the patient was placed under an anaesthetic, and as soon as the muscular system was completely relaxed it was found that complete extension and flexion of the arm could be made without any force being used. The function of the joint was perfect, and the conclusion reached was that the man had suffered from simple muscular rigidity.

Cases of this kind should not be confounded with the inflammatory adhesions which we often find in joints and which it often requires much force to relieve.

TRAUMATIC INJURIES OF NERVES.

By M. D. Knox, M.D., Hillsboro, Texas.

IN preparing this paper I have drawn on the fertile minds of such authorities as Murphy, Senn, Outten and others, all of whom are living lights in our profession and are well known. These gentlemen do not always and in every case fully agree with our standard text-books with reference to the treatment of fresh and granulat-

ing wounds, more especially when it comes to the practice of asepsis and antisepsis.

Knowing these gentlemen to be thoroughly progressive and strictly on the most advanced lines of the profession, makes this subject to me one of more than ordinary interest. Since my paper is expected to treat this class of injuries principally surgically, I shall confine my remarks to the long nerves of the extremities, they being the most readily exposed, and here we have the most practical results in this comparatively new and interesting field of surgery.

It will hardly be necessary for me to take you through the minute anatomy of the nerves. Still, it might be well to go over the most essential elements in their construction in order to make myself plain. The nerves as a whole are the most delicate structures of our wonderful make-up, and require our very best and most painstaking skill to gain the best results. When their normal functions are disturbed, from any cause, temporarily or permanently suspended in their course, it becomes our duty to see what can be done in the way of establishing normal action.

The nerves may or may not be in company with arteries and veins. The larger ones frequently are, and the whole surrounded by and nicely protected with movable connective tissue in such a manner as to admit of a good deal of freedom.

Here I will quote Terings for the anatomy of the nerves in the main, but not in detail. In the *Railway Surgery* of last year, No. 6, he says: "The nerves are divided into two great systems, the sympathetic and cerebro-spinal or motor nerves. With the sympathetic system surgery has little to do outside of the ganglia in the neck and those connected with the fifth cranial nerve."

If we study microscopically a small motor nerve, as the sciatic in the rabbit, we find it is made up of small nerve fibers—each fiber constituting an axis cylinder—a white substance which surrounds the axis cylinder, and a thin membrane which encloses the white substance.

The axis cylinder is the essential, the transmitting portion of the nerve, and constitutes about one-third to one-half of the nerve fiber. In the fresh state it is transparent, but after post-mortem changes under a high power it shows fine longitudinal striation.

The white substance of Schwann is apparently made up of fluid fat and acts as an insulator to the axis cylinder; the white substance of Schwann is interrupted at regular intervals by the nodes of Ranier. The neurolemema, which surrounds and holds in place the white substance, is composed of nucleated endothelial cells, and, like the axis cylinder, suffers no interruption at the nodes of Ranier.

If we study the formation of nerve cords from nerve fibers, we find that a number of fibers are united into a bundle by connecting tissue called the endonurium. A number of these primary bundles are enclosed by a laminated sheath containing lymph spaces and called the peroneurem. Secondary bundles are finally grouped into nerve cords, surrounded by connecting tissues, the perineum.

If we have contused nerve without a solution of continuity, the neighboring or surrounding parts in a fair state of vitality, we have but little to do more than to place or see that the parts are in the most favorable position to give comfort and protection. See that other parts are not injured by your position, and follow the usual line of treatment in this class of injuries.

If you have a divided nerve with but little loss of tissue, and near the distal end, neighboring tissues in a good state of preservation, the above suggestion might hold good here, although it would be well to secure the divided ends in close approximation; but, if there is much loss of substance, amputation not being considered, an attempt to restore continuity should by all means be made.

If the divided ends can be made to approximate without undue tension, such as would cause the stitches to cut out, smooth the roughened ends, stitch them together evenly and accurately, coaptate the ends, stitch them together with from three to five stitches, according to the size of the nerve and what is required to secure perfect adjustment, take one or two deep stitches, deep enough to catch the endonurium and perineum as well.

Perfect coaptation is always desired, although not absolutely necessary for good results, but the more perfect the various parts are brought back together, the quicker the union. The cells of the various component parts, or structures of the nerves, furnish their own material in repair, and no other. Each individual element furnishes cells of their own peculiar kind, and no other kind, and for no other tissue.

Nutriment, of course, is taken from blood plasma.

The axis cylinder appears to grow out first, project or elongate faster from the central end; this will be well to bear in mind in making artificial connections. When it is possible to do so, give this end the advantage.

When the distal ends cannot be made to approximate, nerve splicing may be performed, or some kind of bridging may be made for the nerves to follow on their journey in growing back.

Splicing may be made from either or both ends of the divided nerve.

This may be accomplished by going back along the line of the nerve as far back as the end of the gap to be filled, cut half way through the nerve and carefully split it down to near the end, bring the loose end around and suture to the end of the nerve that you wish to restore.

When the loss is very great, one nerve may be attached or engrafted into a neighboring one, and still get very good results. I think, however, it is very much the better plan, if it can be possibly done, to unite it with its proper connections. In closing the parts over an injured or an uninjured exposed nerve, be sure that the parts do not impinge. Otherwise a brilliant operation may be spoiled in this way.

Bridging has often been successfully performed. Several plans have been suggested. Decalcified bone is considered good material for this purpose. Chromicised catgut is also used with good

results, and even silk in many instances has done well.

Of all the plans and materials suggested, I would prefer to use some of the resident tissue if it could be made to answer, a tendon, a sheath of some large vessel, fascia, or the connective tissue; living tissues are not so likely to give trouble by decaying or by absorption, and the divided nerves will more readily follow it and also draw some nutriment from it in making repairs.

I will briefly touch upon some questions that do not seem to be definitely agreed upon among surgeons. Since I have mainly depended upon the journals for my authorities, I am fully aware that I do not altogether follow our text-books, and I hope that I am not expected to defend my paper in every detail by them. These ideas thrown out to you in this promiscuous way are not original, but adopted and imperfectly classified by me.

Immediate union of any tissue never occurs in any part of the body; a kind of an amalgamation that holds the parts together is mistaken for union. New material is always furnished in making repairs by the process of keryokinesis.

Healing by first intention and healing by granulation is essentially the same. Length of time required is solely governed by surrounding circumstances and the amount of repairs to be made; the more perfect coaptation is performed, the less time is required—cleanliness, or asepsis, being observed. Too much interference and abuse of antiseptics do harm. Pay more attention to asepsis and do not depend so much on antiseptics as the average surgeon of to-day does, and better results will follow.

It is by far easier to keep poisonous germs out of a wound than it is to get them out after they once become fixed in the sore and have started families there.

It has been suggested that antisepsis is good for the surgeon and asepsis for the patient. Oftentimes wounds would get well much sooner if antiseptics were not known or used at all. They not only fail to kill, or even in any way dislodge the germs after once inhabiting the wound, but actually kill or seriously retard the new and tender granulations that are necessary in the repair of all wounds. I refer mostly to such antiseptics as carbolic acid, bichlorides of mercury and iodoform.

Water that has been previously boiled, plain, or with a little clean salt added not stronger than a ten per cent. solution, used at a temperature of about 140° Fahr., is an efficient and a safe wash.

I do not wish to be understood that I would discard altogether antiseptics, but to my mind it would be better to do so than to indiscriminately use them or even follow the teachings of some of our older writers. After the sore has once become septic, see that proper drainage is allowed.

Stick to cleanliness and keep the parts at rest, and you are combating inflammation and following nature's cure—the greatest cure of all.

RHUS POISON.—Dr. A. V. Hudson recommends muriate of ammonia as a specific in Rhus poison. An ounce of the salt is dissolved in a quart of water and the parts kept wet with absorbent cotton covered with oil silk or rubber tissue.

QUANTITATIVE DIAGNOSIS.

BY A. L. BENEDICT, M.D., BUFFALO, N. Y.

AMONG the advances made in medical science during the last few years, perhaps the most important, so far as diagnosis is concerned, is the introduction of quantitative estimations. Probably the earliest item in this category was the counting of the pulse, a simple procedure, yet absolutely impossible till watches or clocks capable of dividing time accurately into minutes were invented. Next, in order of general adoption, may be put the measurement of temperature by means of the clinical thermometer. Well established, also, are the various quantitative chemical investigations of the urine. Much more recent are the several quantitations of the blood, for amount of haemoglobin, number — and more recently bulk— of cells, proportionate number of various kinds of leucocytes. Belonging to about the same period are also the examinations of the stomach contents. The perfection of instruments for accurate division of time—all of them, we believe, depending on the use of a rotating drum with tracing style and electric cut-offs—has also rendered possible the measurement of nerve currents and of muscular response, whether of the external skeletal muscles or those, for example, of the stomach. In sanitary work, the counting of micro-organisms in water, milk, etc., is of the utmost importance for giving ideas of relative purity, and it has even been seriously proposed to estimate the severity of diseases like tuberculosis of lungs, by counting the bacteria thrown off from the body.

Men are naturally lazy, and, before accepting the burden of an additional requirement of skill, ask, What is the use of it? This, especially for a busy man like the average physician, is a proper attitude, provided that the tendency to conservatism is not carried too far. Quantitative methods are, with few exceptions, tedious and expensive. Without considering their value from the standpoint of the scientific investigator, the acceptance or rejection of each test, by the practicing physician, must depend on its power to throw light on disease processes.

The clinical thermometer is an instrument which is too often neglected. Every physician has one, but in many instances, from sheer carelessness, it is not used. With very few exceptions, the thermometer enables us to distinguish between an inflammatory process on the one hand and a strictly nervous, mechanical or degenerative process on the other. Hysteria is, however, often attended by elevation of temperature, and a nerve lesion, a dropsy, or a neoplasm or fibrosis, etc., may be attended by a complicating inflammatory process. The condition to which the term "feverish" is often applied may or may not be an indication of hyperpyrexia. We have personally taken pains to test our own temperature in numerous instances when we felt "feverish," and never have succeeded in demonstrating a rise of temperature. With patients, also, the statement as to presence or absence of fever must be

regarded as absolutely neutral in value. On the other hand, it is a very false idea that the seriousness of a case varies directly with the temperature. It is by no means rare to see typhoid patients side by side in a hospital, one delirious and profoundly poisoned by disease products, yet never having a temperature over 103.5, while the other, with a minimum of, say, 102 and a daily maximum of 104.5 or 105, is always rational, is little depressed and makes a speedy recovery.

It may seem late in the century to refer to the matter of counting pulse, but there are not a few physicians whose care in diagnosis and treatment depends rather on the fashionableness of certain procedures than on the needs of the case, and who are very prone to sneer at and to neglect valuable means merely because they are old stories. Quite recently it has been pointed out that many of the most malignant cases of scolecitis have low temperatures but high pulse rates. The same fact was emphasized by individual teachers ten years ago, or more, in regard to puerperal fever. It is time that the medical profession understand that, in general, sepsis must be diagnosed as much by the pulse as by the temperature, and that the former is really the crucial test when the advisability of operation hangs in the balance. In most medical cases, however, the hardness or softness, the rhythm and, in general, the quality of the pulse, is more important than its rapidity.

In the examination of the urine many men are exceedingly conscientious in taking the specific gravity, but confine their investigation to a single sample. Unless the specific gravity is extremely low or high, such a method is as useless and as illogical as to time a horse or train with the greatest accuracy, without noting the distance traversed. Knowing the specific gravity of urine and its total quantity in 24 hours, the elimination can be quite well judged. English physicians place considerable stress on the mere measurement of urine for the day and night respectively, diagnosing Bright's disease tentatively if the night urine is increased. They undoubtedly emphasize too strongly the importance of a patient's rising to urinate during the night, as this symptom is often due to vesical and prostatic conditions, but American physicians would do well to imitate them in this simple yet valuable quantitative estimation. Urea may be quantitated by very simple apparatus and the examination should always be made whenever the question of elimination is significant. But some facts are usually overlooked. Urea is not itself a poison, or, at least, only in enormous amounts; the estimation of urea, therefore, affords only inferential data as to auto-intoxication; diminished urea depends on diminished exercise and diet as well as on renal weakness, so that confinement to bed on light diet reduces the urea to 20 grams or less a day. The estimation of uric acid may be made approximately by precipitation with hydrochloric acid and weighing; no other method is sufficiently simple for the clinician. But little reliance can be placed on a single examination, since the real question is as to the amount in the blood. This amount may be excessive in spite of a free elimination by the kidney, or it may be excessive because of a decrease in renal work. For all practical purposes, the old fashioned specific gravity method is sufficiently accurate in testing for sugar. Semi-scientific methods of collecting gases of fermentation or of precipitating copper by so many drops of a Fehling's or other solution, are more troublesome and no better. Titration is not particularly difficult, though somewhat tedious, and is chemically accurate. But the physician should never forget that the amount of sugar is not an index of the severity of the disease. It is much more important to estimate urea than sugar in cases of diabetes, for it is nitrogenous waste, not saccharine loss, that kills. The quantitation of albumin is of little value; enough is never lost to be considered seriously as a drain on the system, and no information is afforded as to the severity of the conditions present. The method of estimation by sedimentation in a tube is quite inaccurate, though well enough for comparative purposes. Centrifugalization is far superior and is fairly reliable. Perhaps the greatest value of all these methods is that they remove the delusion that "urine is solid with albumin" or that "there must have been 20 per cent. of albumin present." If after centrifugalizing we divide the proportion of albumin by four or five, we have a quite accurate statement of the proportion of dry albumin present, and this is always a very small item. An accurate quantitation of indican is difficult and of little value, on account of the indirectness of the information received. Indican means the removal by the kidneys of a substance circulating in the blood, after having been absorbed from the intestine, and arising from the decomposition of proteids—certain kinds particularly rich in sulphur, especially—by bacteria. There may be much decomposition with no more than normal elimination of indican, nor does it appear in these instances that we can locate the fault of elimination in the kidneys, nor in any other definite spot. It is of value to be able to say that there is little, considerable or excessive elimination of indican in the urine, but figures would have no practical significance.

The estimation of bacteria in water depends on many arbitrary factors, so that the same technique must be used for comparative tests. Actual number of bacteria should never be considered more than a probable argument for the goodness or badness of water, as water rich with certain microscopic weeds may be perfectly wholesome, even more potable than water almost lacking in germs, as non-pathogenic bacteria in some instances have the power of destroying germs of definite dangerous qualities. On the other hand, it is obvious that a few disease germs may render water utterly unfit for domestic use, in spite of a low total per cubic centimeter. The proposition to estimate the seriousness of gonorrhoea or phthisis by the number of bacteria per cubic centimeter or cubic millimeter thrown off from the body, is a trifle less sensible than quantitative methods depending on the penetrating power of the odor of the breath.

Blood examinations are so fully discussed in other places, and so universally ignored by the general profession, that we shall make no attempt

to consider them at present, save to call attention to the need of obtaining information of this sort in doubtful cases.

Two facts must be kept constantly in mind: Figures can never tell directly how sick a person is; and between two methods of quantitation, one strictly accurate but available only to an expert, and the other approximate but adapted to the clinician, the choice must be in favor of the latter for almost all practical purposes, since a single quantitative examination rarely has much value.

ANEMIA.

By Geo. W. Finley, M.S., M.D., Harmony, Ind.

WITHIN certain limitations, the relative quality of the blood seems to be of far greater importance in the vital economy than the relative quantity of that fluid. A condition of true plethora or of too much good blood is scarcely supposable.

Anemia does not signify always thinness of flesh or even pallor of cheek. Many overfed and under-exercised people, red-faced and corpulent in habit, are yet truly anemic. Such are simply water logged, or otherwise liquor-logged, and while vaso-motor nerve irritation may cause flushing of features and palpitation of an oppressed heart, the blood of such a subject under the microscope shows a really impoverished state, in that the proportion of red blood corpuscles is far below the normal standard.

Acute, simple anemia may be produced in a previously healthy individual by sudden, severe hemorrhage, either traumatic or pathologic, or by slight losses repeated at frequent intervals. Yet in such a case, the essential volume of blood and the accustomed arterial pressure will be automatically and quickly restored by immediate inflow of fluids from extravascular tissues and by temporary contraction of the caliber of the blood vessels.

In case of extremely profuse hemorrhage, actually presaging fatality, if the flow be controlled and means of transfusion are at hand, relief may be afforded by simply throwing into the veins a warm normal solution of common salt equal in volume to the amount of blood lost. After transfusion, the emaciation of features, shrinkage of tissues and intense thirst incident to nature's quick equalization of intravascular pressure are not observed.

In both instances, however, it will require weeks or months for the cytogenic laboratories of the system, the lymphatics, the spleen, the liver and the red marrow of the long bones, to perfectly restore the proportionate numbers of red and white corpuscles, the hemoglobin, fibrin and plasma.

Suppose we add to the saline liquid for mechanical transfusion the iron and manganese and all the essential chemical constituents of normal blood, or even use aseptic and pure, fresh defibrinated blood itself, we find that all these elements are eliminated through the various excretory channels of the system (the surplus iron being found lodged in the liver), and the slow process of rebuilding the vital fluid taken up in nature's own slow and mysterious way. Thus all the assistance that can be rendered at once and by wholesale is in supplying the necessary diluent, viz., aqua pura, with sufficient alkaline salts to insure the correct specific gravity and other conditions essential to circulation and osmosis.

Then if we must rely entirely upon the vital chemistry of nature for the restoration of the all important cell elements of the blood when impaired by accident, poison or disease, how imperative becomes our duty to safeguard those organs most directly concerned, and to supply, in appropriate foods and medicines, together with the best hygienic care, those conditions most favorable for nature's unhampered action.

But it is not alone in direct loss of blood that a condition of anemia is produced so difficult to overcome as a symptom that it finally becomes either a disease in itself or an aggravating and complicating cause of many diseases, both general and local. Disproportion of the essential blood elements may result from any wasting disease, as from albuminous loss in the different Brightic diseases; from suppuration or necrosis in any part of the body, as in tuberculosis and even dysentery and chronic diarrhea. But more especially does it become serious in its consequences, immediate and remote, when at the same time natural powers for regenerating the constantly wasting cell elements are poisoned or otherwise disabled. This toxic hemolysis occurs in such constitutional diseases as syphilis, septicemia, and to a great extent in malarial and la grippal affections. Again it occurs to a greater or less degree in typhoid and all the exanthematous fevers, also in ptomaine and leucomaine poisoning, and especially in autoinfection by retention and absorption of retained secretions and excretions. Anemia is undoubtedly the direct effect of many diseases, but, on the other hand, it may act as a cause of distressing ailments and many local affections. Syncope arises from cerebral anemia, while migraine and angina pectoris, with many other manifestations of neuralgia, are attributable to general or local anemia. An anemic person has less vital power of resistance to germs of infectious disease than he would have in an ideal state of health. The very elements of normal blood which seem to render its possessor immune are either absent in anemia or so occupied with the work of rebuilding that they can neither ward off infection nor counteract the poisonous effect of chemical ferments in the circulation. Chronic malaria produces a profound anemia, probably through over-stimulation, and consequent congestion and exhaustion of the spleen. Even when we remove the cause, as by change of residence to a non-malarious climate, the effect remains to plague the patient, and becomes a possible cause of many grave disorders.

Chronic diarrhea and dysentery are responsible for conditions of extreme anemia and its consequences, as we often see exemplified among our old soldier patients. Standard medical authorities say: "Subjects of erysipelas and septicemia

are usually persons already sick and weak from long continued mucous discharges." (Musser, Osler, etc.)

Various inveterate neuralgias, veritable hunger cries of certain nerve filaments for their essential supply of nutrition, which can only be brought to them by a healthy blood current, are direst results of anemia. When we come to treat local affections, for instance, of the eye or ear, in anemic patients, we often find all the approved local remedies entirely useless until reinforced by appropriate general tonic treatment. Even minor surgical operations on anemic subjects require, in addition to appropriate technique, including strict antiseptic care of the local lesion always of course, general treatment in the way of reconstructive tonics. Syrup of the iodide of iron is often very useful, and one of the most frequently beneficial combinations of the bitter alkaloids with mineral tonics is the official preparation of hypophosphites compound with strychnia, iron manganese.

A peculiar form of disturbance in blood formation is ordinary chlorosis or green sickness of adolescent girls. Its clinical features are easily recognizable, and one of the best proofs of its practical identity with acute anemia is the fact that it usually yields promptly to the judicious and free administration of ferruginous drugs, together with out-door exercise and generous diet.

It is found in practice that heroic doses of the iron preparations are well borne in this class of cases, and that whereas small doses cause constipation, and in that regard perhaps add to the trouble, larger doses, well diluted, of course, keep the intestinal tract open, and also act as an antiseptic, as the metallic compounds are excreted. Of course, while we are exhibiting the iron and arsenic, the bitter tonics and other reconstituent remedies internally, we must never neglect the matter of judicious dietary and general hygiene of the anemic patient.

Occasional cases simulating idiopathic anemia, in which no cause has yet been demonstrated, for the progressive hemolysis or destruction of corpuscles, are found to result from the ravages of tapeworms in their respective hosts. Anthelmintics, free purgation, perhaps lavage of stomach, followed by continued use of nutrient reconstructive tonics, will usually restore health in due time.

On Bicycling by Children.—Private Docent Dr. Martin Mendelsohn (*Der Kinderarzt*, 1895, VII., 8; *Pediatrics*) has the following to say in reference to bicycle riding in childhood: A large amount of cycling in childhood is to be greatly curtailed, and in many cases the exercise ought to be altogether prohibited. The introduction of wheeling is not to be recommended in the physical education of children. The effect on the heart of the child is even more injurious than on that of the adult, for children have a tendency to assume an incorrect position on the wheel and to bend the body forward too much. The continued pressure of the saddle also has a bad influence on the undeveloped generative organs. The body skeleton is still soft, and tends to deformities.

Bicycling should be absolutely forbidden in convalescence from fevers. Frequently myocarditis (intermittent pulse) is produced by it after infectious diseases. Great care should be taken not to overburden the heart by exercise on the wheel, otherwise permanent changes in the heart muscle may take place. A child passed through scarlet fever and measles without any injury to the heart. Later it passed through an attack of varicella, and soon after convalescence took to cycling, which caused irregularity of the heart's action, a weak, rapid pulse, and other symptoms of cardiac weakness, which later on led to an aortic insufficiency. Even without antecedent disease care is necessary. In childhood the blood pressure is often physiologically raised, particularly as the child is nearing puberty.

Sudden Drowning.—During the warm season, news items like the following are almost daily met with: "Mr. ——, an expert swimmer, was seized with cramps while bathing, and without outcry or struggle sank and was drowned before his friends could reach him."

"This," says Dr. T. A. Smurr, in the *Medical Brief*, "is a fatal, hoary-headed professional pathological blunder, which we have taught and are still teaching the people, and which makes us guilty of thousands of deaths annually."

He thus explains his position: "The normal heat of the blood is about 98°. As it rises above this, we rapidly approach the danger line. In Summer the temperature of our lakes and streams rarely goes above 70°, while in sun exposure it often runs up to 110 or 120°. Your expert swimmer has his blood heated by exercise to a temperature above normal. It is driven from the very extensive capillary circulation of the skin, as it is shown by the shriveled, pale appearance of the skin of any one long in the water. The vessels of the brain and head are relaxed by the intense heat of the sun and invite the tidal wave of dangerously overheated blood driven from the skin circulation. With what result? An absolute stagnation of the cerebral circulation, and death by sun or heat apoplexy. No warning, no muscular cramp, no outcry for help, no struggle—the victim just sinks like a plummet, rarely coming again to the surface, and is found where he sank, every muscle relaxed, the face calm and composed as if asleep, the skin of the body shriveled and pale, the neck, head and face livid.

"Teach this to the people and they will promptly recognize the great risk, which no amount of good health or other favorable conditions can in any way lessen, and will see to it that the present rate of accidental drowning is soon reduced by 50 or 75 per cent."

History Resounds with the performances of men whose years numbered threescore or more. "My Cid, with the fleecy beard," driving the Moors from Spain, Dandolo, Doge of Venice at ninety, and storming Constantinople at ninety-four, and in our own time Von Moltke at seventy conducting a campaign unparalleled for brilliancy and result in the history of war. These are feats of arms; would you search other fields? In science there are Darwin and Spencer and Pasteur and Lister, and if you go back a little, Sir Isaac Newton, who could name a discovery for every one of his eighty-five years. It was Voltaire who said that if all the great men of all ages could be assembled in a congress Sir Isaac Newton would be chosen to preside by unanimous consent. In literature and art the names of those who in advanced years won imperishable renown are legion. Everybody can recall their names. Milton wrote his great epic when nearly sixty. Michael Angelo at eighty won the triple crown for excellence in painting, sculpture and architecture. Browning at seventy-seven wrote his most characteristic poem, and Tennyson at eighty-one gave to the world the most exquisite of his lyrics.

The Administration of Ether to Infants.—Infants (F. Woodhouse Braine, in the *Practitioner*, *Pediatrics*) are readily brought under its influence without the slightest cyanosis. The young administrator may be puzzled at first how to estimate the degree of anesthesia produced in so young a subject. The writer has found the following method of great service: Place the index finger in the in-

fant's hand, and it will be found that during the earlier part of the administration the finger is grasped very tightly, the Palmer reflex being active; but as insensibility approaches, the infant's fingers gradually relax, and as soon as they become lissom the operation may be commenced. This method is preferable to the conjunctival test, because the conjunctiva of a baby loses its sensitiveness very quickly after being touched a few times with the finger. The infant may appear to be thoroughly insensible by the conjunctival test when it is actually on the point of recovering from the anæsthetic, and under such conditions the reapplication of the face-piece will cause struggling, to the great inconvenience of the operator. The writer has never seen broncihtis due to ether produced in a baby, but he is exceedingly careful against cold air being breathed for several hours after the operation. The opening of a window is strictly forbidden, and, when possible, the baby is not even removed from the room in which the operation has been performed for at least six hours, and he finds that when these directions are strictly adhered to there is no danger of bronchitis occurring; moreover, the tendency to sickness is greatly diminished, and this he attributes to the non-stimulation by cold air of the nerves supplying the lungs, with the consequent reflex action on the stomach.

Atropine in the Treatment of Diseases of the Eye.—In an article by Dr. W. B. Marple (*N. Y. Polyclinic*, July 15) the indications and contraindications for the use of atropine in eye troubles are summarized as follows:

1. It *should* be used in iritis.
2. It *should* be used in ulcer of the cornea and keratitis.
3. It *may* be used as a mydriatic in young persons under thirty or thirty-five years of age. Cocaine or homatropine, however, answer as well and have many advantages.
4. It *may* be used in refractive work to relax the accommodation in the same class of patents as in "3." Here also homatropine does as well.

In regard to the contradications we find that:

1. It should *not* be used in conjunctival troubles.
2. It should *not* be used simply to temporarily dilate the pupil in patients over forty or forty-five years of age (unless iritis is present, in which case the age of the patient should not deter us from employing it).
3. It should *never* be used in glaucoma or where the pension of the eye is increased.

Finally only weak solutions (¼ of 1 per cent.) should be used in very young (one to three years) children, otherwise constitutional effects of the drug are apt to follow.

Bad Effects from Trional.—Gierlich (*J. A. M. A.*) describes the case of a man who had been an excessive drinker of beer and afterward used morphine habitually, to a moderate extent. To relieve his insomnia he began to take trional 1.50 gram every evening for two months, amounting to 84 grams in fifty-six days. At the end of a month he found he had some difficulty in writing. In a few days his speech was also affected, he staggered as he walked and required a support. The movement resembled those in ataxia, with trembling of his hands, feet and facial muscles. He complained of a sensation of oppression, buzzing in his ears and spots before his eyes, while his spirits and mind were profoundly depressed and weakened. Several times he had involuntary micturitions and evactuations. In speaking he transposed letters and syllables, and his writing was incoherent. With the suppression of the trional gradually all these symptoms passed away in the course of three weeks, but not until the fourth to fifth week could he write as before the attack. Gierlich advises against the prolonged use of trional. The doses should be rapidly diminished or interrupted for a day or two at intervals.

Dr. F. Kaempffer (*Therap. Monatsch.*, Feb. 1897; *Therap. Woch.*, Feb., 21, 1897, *N. Y. Med. Jour.*) relates the cases of four elderly persons suffering with cancer of the stomach or of the liver, with impaired nutrition, in whom fifteen grains of trional, instead of causing sleep, gave rise to a peculiar disturbance manifested by restlessness, anxiety, palpitation of the heart, and illusions, which lasted all night. In one of the cases a dose reduced to three-quarters of a grain produced a moderately sound sleep for six or seven hours; in the others, however, there was no change from lowering the dose, and an increase of it resulted in severer disturbance.

Aneurism and Syphilis.—*Medical News* summarizes an article on the connection between aneurism and syphilis by Etienne as follows: He announces that 70 per cent. of 376 cases examined were found to have syphilitic antecedents, and this is a minimum proportion, as it is so difficult sometimes to detect traces of old syphilis. With most of the aneurisms the infection dates from five to twenty-five years. No histologic differences between the aneurisms of syphilitics and non-syphilitics was noted, with rare exceptions. Mercurial treatment is successful if the gummatous infiltration is still susceptible to absorption without leaving scleroma behind it, so that the tissues can resume their elasticity. When the lesion has advanced beyond this stage, specific treatment is ineffectual. The article concludes with the statement that aneurisms, therefore, with tabes and general paralysis, can be included in what Fournier calls "para-syphilitic affections."

"Absent Treatments."—The *Massachusetts Medical Journal* is responsible for the following: A man of the Christian Science faith fractured his femur. Under Christian Science it united, of course, but, of course, there was considerable shortening. Some months later a lady called at his place of business to sell him a book. In the course of conversation he related his experience, bemoaning the fact that the one-timed injured limb was so short that he walked with much difficulty. She expressed much sympathy, but assured him that just as Christian Science had mended the bone, just so could it lengthen it. She informed him she understood and could give him one treatment then, and after that give him what were called "absent treatments." This she did, and departed. A fortnight later the man believed his leg really was a little longer. After another week he was sure it was. A week later it was still longer, and soon after it was as long as the other, and later still it was longer than the uninjured limb. At last accounts the leg was getting too long; the "absent treatment" was still going on, and the whereabouts of the woman could not be ascertained.

The Preventive Treatment of Baldness.—Basing his treatment on the fact that the hair contains a substance similar to glue and gelatine, Dr. Deichler has administered colloids in different forms, in different affections of the hair. Together with a tonic regime, he gave the patients bouillons prepared by prolonged boiling of 2 parts of meat and 1 part bones. The bones were frequently replaced gelatine, or by shavings of deer's horns, which are very rich in ossifying cartilage. The favorable effect of this treatment is seen first of all in old men. In younger persons the action of the colloids showed itself upon the hair very distinctly. The thin hairs became firmer, they acquired a brilliant luster, and the falling of the hair ceased. This favorable influence showed itself in the hair all over the body. The nails also became more brilliant and transparent. Systematically used, this treatment, the *Am. Med. Surg. Bull.* thinks, will go far to prevent baldness.

The Blind and Sensitive Elements.—From Russia comes the news (*Am. X-Ray Journal*) that Noishewski has invented an instrument, the principle of which is the sensitiveness to light of selenium and tellurium, both of which change their quality as conductors of electricity with a variation in the light to which they are exposed. In stating that the blind can see by this instrument, a relative meaning only is indicated. While their actual vision will be unaffected, they will feel the various effects of changing light by its action. It is claimed that a totally blind man has been enabled to find the windows in a room and after some practice to distinguish approaching objects. The inventor hopes to make the instrument so efficient that the blind will be able to tell almost certainly when they are approaching an opaque or transparent substance.

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"To love something more than oneself, that is the secret of all that is great; to know how to live for others, that is the aim of all noble souls."—EMILE SOUVESTRE.

CORNELL MEDICAL COLLEGE.

THROUGH the princely liberality of Mr. Oliver H. Payne, of the Standard Oil Co., the medical department of the Cornell University will be furnished with facilities for instruction, and an income for the prosecution of scientific and practical work in every department of our profession, unequaled by any institution in the world. It remains to be seen whether the unprecedented facilities placed at the disposal of the new institution for thoroughly practical and advanced work in the line of scientific investigation will be utilized to their fullest possible extent. In science there is no bigotry, no intolerance, no building of theories upon premises not fully established by well authenticated facts. We perceive the faculty is made up of men who have been identified all their professional lives with the so-called "old school." It is now universally admitted that much, very much, of the advanced ideas in materia medica, therapeutics and hygiene have been developed and nourished by men of independent thought, who for their independence were long ostracised by the dominant school, until now, with the progress of science and the test of actual experience, they have changed the medical practice of the world, eliminating with each succeeding year more and more of its crudities and empiricism as it became more and more in harmony with nature. It would seem natural that in a strictly scientific school some of its instructors would be sought from among these very men who have given such an impetus to progress in the preventive and curative mission of the profession. Sectarianism cannot stand the clear, strong light of science, and will be soon numbered, in everything claiming science as a basis, with the past. An institution with $1,500,000 at its disposal—and this is the amount which Mr. Payne has credited to the new institute—can afford to be independent, leading and forming public opinion, moving on step by step in the line of scientific progress, no matter how much the truths thus evolved may conflict with popular belief, or run counter to the venerated but often speculative authority of the past. However powerful a factor money is in the success of any great enterprise, unless controlled in matters of education by unflinching integrity, clearness of judgment, and thorough honesty of thought and purpose, it becomes an element of evil, instead of helping the great work of progress and development, producing on the contrary discord, uncertainty and confusion.

It is admitted by all thoughtful minds that the schism which in times past created so much bitterness in the medical ranks might have easily been avoided without the least compromise of dignity or concession to error. Wisdom has been learned through the bitter lesson of experience and the broadening of liberal thought taught by the harmonizing touch of science. Acting in the spirit of freedom of thought and scientific culture, zealous only for truth, the new school has the power, if it so desires, of leveling to the ground the already crumbling walls of sectarianism by thoroughly eliminating it from the very foundation and structure of their new work, and inviting, in a true catholic spirit, the active and energetic cooperation of all lovers of truth, who with unbiased minds seek for it along the lines of intelligent experience and scientific investigation.

Never in the history of the world have such grand opportunities been offered as now in the closing years of the nineteenth century, when the soul everywhere is awakening to a new and stronger life, for impartial minds, in the unfolding of truths, as they penetrate deeper and deeper into the arcana of nature to reach at last the cause of disease and by its prevention lift from the world its load of suffering and crime and open wide the avenue for its regeneration. It is in the prevention of disease that our profession has added so much to human knowledge during the past twenty years as to materially lengthen the duration of human life, checking and almost eradicating many a pestilence which in times

past planted the earth with graves. The symptoms of disease and the administration of drugs form only a small part of the study and the work of our profession, which, in its world-wide grasp, should be in touch with all science seeking to reach the heart of nature and interpret aright its pulsations. To place these facilities for study so that they can be available requires a large outlay of money, in providing the often delicate instruments needed in illustrating the lines of study, and well trained minds to follow out, step by step, the logical process which blends them into a harmonious unit.

As a pecuniary backing for the work of the new institution $1,500,000 has been placed to its credit. Six hundred thousand of this amount will be utilized in the new building, the instruments and the chemical appliances needed, reserving an income of $400,000 a year for expenses. The medical department of Cornell University, in carrying out the idea of the founder of the university, which we trust will be sacred, has an opportunity, through the liberality of Mr. Payne, never offered before of harmonizing the conflicting elements of the medical profession, giving it a breadth and strength it had never possessed and placing it foremost in the ranks of science.

IS IT COWARDICE?

MAKING all due allowance for the sympathies excited by exaggerated statements, enough facts remain which cannot be disputed to show in the case of the sick on the field, in the camp, and among the returning troops on transports and even after landing, there has been a deplorable lack of foresight and a most defective organization, whose feeble exertions depended to a certain extent upon the slow movements of *routine* and the leisurely unwinding of *red tape*. To this inefficiency, to say the least, precious lives have been sacrificed, and the nation, notwithstanding its victories, notwithstanding the noble work it has accomplished for freedom, has disgraced itself before the civilized world in allowing the men who won the battles which wrenched from the grasp of tyranny and gained an empire for liberty and civilization, to wither and die, not on the battlefield, not in the trenches, for that was a part of war which they were not only willing but eager to meet, but from disease brought on from breathing miasm which poisoned the fountains of life, and which needed, to eradicate, the support of nourishing food, of sheltered tents, of well-ventilated transports, of careful nursing and well directed medical attendance. Did they get all of these? If not, there must be blame somewhere, and it is the nation's duty to find out the wrong and apply the remedy. The great question which stirs the heart of the nation, which touches its pride, which appeals to its humanity, which saddens the soul in our hour of triumph as nothing else can, is the sacrifice of these heroic men, not on the altar of their country but on the altar of that stupidity and inefficiency, which it is the nation's duty to search out and devise some plan, some system of organized work, which will prevent a recurrence in any emergency.

Public sentiment everywhere calls for an investigation; minute, impartial and relentless, but when the call goes out from the President for a committee it is with the utmost difficulty one can be obtained. The call, emanating from the President for a work like this, is the voice of the nation and should have all the force of a command, admitting of none but the most weighty and unanswerable excuse. What is the cause of this reluctance to perform an important public duty in a question in which the honor of our nation is so deeply concerned? Is it cowardice? a fear that the ax may cut too deep and place in too strong a light influences and movements which for political reasons they would fain conceal or cover with the mantle of silence, praying for speedy forgetfulness? As physicians, the efficiency and the honor of the medical department deeply concerns us. Whatever may be the result of the investigation, we hope, we trust, that the medical profession will unite in urging with all its influence that in the reorganization of the army a medical department be created similar to the English Royal Medical Corps created by Parliament after the war in Egypt, which shall be independent, with its own officers and full power to execute its orders. If, under such an organization trouble should occur, it would be easy to trace it to its origin.

The admirable working of the plan suggested can be seen, to a certain extent, in the efficiency of the Red Cross organization. With its own chief, its own commissary, surgeons and nurses, its own transports, medical and surgical appliances, backed by an unlimited supply of means, executing its own orders promptly, without passing through other hands involving an almost endless unwinding of red tape, a clear picture is given of what might be done with an independent medical corps.

The Red Cross organization has given the nation a lesson of efficient, intelligent work. Will the lesson be heeded?

A MARTYR TO IGNORANCE AND MISREPRESENTATION.

THE hospital records of the war with Spain are full of heart-breaking incidents, but there are none which more deeply touch our sympathies or arouse a stronger indignation than the story of the sickness and death of the brave young Red Cross surgeon, Dr. George W. Lindheim, who on the morning of Sept. 15th at his parents' home passed from mortal to immortal life, from detraction and misrepresentation in the clouded atmosphere of earth to the bright light of the great hereafter, where we shall be known as we are. Dr. Lindheim had been a member of the Red Cross staff of physicians for five years and noted for his ability, his honesty and conscientious discharge of duty. Two years ago he joined the Eighth Regiment and went with it to Chickamauga, where he won an enviable reputation in his care of the sick. When it was decided to send the sick of his regiment home, numbering 260 soldiers, Dr. Lindheim was placed in charge. Many of the patients were fever patients, all were sick, and all provided with food in abundance most fitted for the condition of the sick, such as they would have received in the best hospitals at home. At Cleveland and at other places on the route the train was visited by physicians and citizens, who insisted that some of the patients should be taken to the hospital, charging the doctor with ill-treating and starving them and heaping upon him the foulest abuse, even ranking him as a murderer. These reports were caught up by sensational papers and spread broadcast over the world. Dr. Lindheim, in intelligent and conscientious discharge of his duty, brought the 260 soldiers entrusted to his care to their destination without the loss of a man. It would have been well if others holding prominent positions in the army and in state had been as intelligent, as brave and as conscientious in the discharge of their duty as was this martyred hero. Of the 260 soldiers who were removed in a hospital train from a pestilential camp, every one has either recovered entirely or is convalescing, but the hero who guarded them, watching over them with sleepless eye and unremitting care, did so at the sacrifice of his own life. After his work was over he was stricken with typhoid fever from which he would undoubtedly have recovered had not his vital force been so much exhausted by anxiety and excessive labor. No words can express the heart breaking agony of mother, family and friends, as the boy, in the ravings of his last hours, showed how deeply the taunts and abuse of the unthinking had stung him and paralyzed his last hold upon life. Among the noble lives which have gone out in this war none will shine with a brighter luster and none be held in higher reverence than that of the young Red Cross surgeon.

EVOLUTION.

IN the dawn of Christianity, missionaries came to convert the people of Britain. As they sat in a large hall a bird flew in at the open door, attracted by the fire blazing upon the hearth, flying out again after a moment's pause. The king pointed to the bird as an illustration of Life, which he said was like the bird. We see it for a little time, but we know not whence it has come or whither it is going. And what additional lights have all these centuries thrown upon the problem so full of interest to us all. We can trace animal life in a direct line of succession through various stages of evolution, estimated at a thousand million years, from the amœbe, with its single cell, absorbing nutriment from no single organ, but from its entire surface; but how this form of life came into existence we cannot even conjecture. In hunting about to find the solution of the mystery of life, important laws have been discovered, the knowledge and observance of which, utilized by such men as Lamarck, Darwin and scores of other investigators in advancing the progress of evolution, have been the crowning achievement of science during the nineteenth century. Recent discoveries of fossil remains in Java, Madagascar and Australia have made still more complete the evidence, available proof and discoveries wherewith Darwin's name is most commonly associated. Prof. Heckle, in a recent address before the British Biological Society thus summarizes the stages of evolution:

"The monophyletic origin of all mammalia—that is to say, their origin from one common parent form, from monotremata upward to man—is no longer a vague hypothesis, but an established fact. All the living and extinct mammalia which we know are descended from a single common ancestral form which lived in the Triassic or Permian period, and this form must be derived from some permian or perhaps carboniferous reptile allied to the Progonosauria and Theriodontia, which was derived from a carboniferous amphibian of the group Stegocephala. These amphibians in turn descend from Devonian fishes, and these again from lower vertebrates. The most important fact is that man is a primate, and that all primates—lemurs, monkeys, anthropoid

apes, and man—descended from one common stem. Looking forward to the twentieth century, I am convinced it will universally accept our theory of descent. I have no doubt that the strong influence of anthropogeny upon other branches of science will be most fuitful."

DR. I. N. LOVE, in reply to a toast, "*The Babies*," at a recent banquet in St. Louis, closed an eloquent speech with the sentiment: "Then here's to us all, babies as we are. Yes, we come into this world, puling, puking infants, naked and bare; we go through the world, puling, puking infants, each with his own share of sorrow, trouble and care. We go out of the world, puling, whimpering, helpless infants, faint, feeble, tottering, God in His infinite omnipotent wisdom only knows where; but all along the road, if we are thoroughbreds here, we shall be thoroughbreds in that Eternal future towards which we are all speeding with irresistible force."

DR. SCHWENENGER says that Prince Bismarck often called his dismissal from the chancellorship his death warrant, which was the literal truth. The dismissal robbed the Prince of his life's mainspring, and his superabundant energy no longer had a proper sphere for action. The story of Bismarck is every day repeated by hundreds in every department of intellectual labor. Life is prolonged by incentives to work, and when they cease collapse is almost sure to follow.

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The work has been thoroughly revised in this edition, and the size increased by the addition of characteristic indications. Price $1.50.

THE OFFICE TREATMENT OF HEMORRHOIDS, FISTULA AND WITHOUT OPERATION. By Charles B. Kelsey, M.D. E. R. Pelton.

The author, who is recognized as the leading specialist in diseases of the rectum, attempts to counteract the far too prevalent idea in the medical profession that the only radical treatment of these affections is by operation, as well as to call attention to what he considers the too frequent misuse of one of the most important operations. The work is well written and full of important suggestion.

A TEXT BOOK UPON THE PATHOGENIC BACTERIA. For Students of Medicine and Physicians. By Joseph McFarland, M.D. With 134 illustrations. Second edition, revised and enlarged. Philadelphia: W. B. Saunders.

The work conveys a concise account of the technical procedures necessary to the study of bacteriology, a brief description of the life history of the important pathogenic bacteria and sufficient account of the pathological lesion accompanying the micro-organismal invasions to give an idea of the origin of symptoms and the cause of death. In this second edition the author brings his work up to date in all departments, making also a special point to add to the amount of technique it contains and so make it fulfill the double purpose of a systematic work on bacteria and a laboratory guide.

SOCIETY REPORTS.

LIGATION OF THE RIGHT SUBCLAVIAN ARTERY FOR A SACCULATED ANEURISM OF THE FIRST PORTION OF THE AXILLARY.—RECOVERY.*

BY W. O. ROBERTS, M.D.,
Professor of Surgery and Clinical Surgery in the University of Louisville, etc., Louisville, Kentucky.

Sept. 28, 1897, Doctor Clark, living near Mount Sterling, Ky., brought to my clinic, at the University of Louisville, a patient with the following history: A man, aged 58, a tall, muscular fellow, a farmer by occupation, who had always led an active life. His father died at the age of 89 years, his mother at the age of 70 years, so it will be observed that he came from a long-lived family. One sister dead, cause unknown; several brothers and sisters still living, all over 50 years of age and in good health. The patient himself never remembers to have been sick but once, and that was ten years ago, when he had an attack of inflammatory rheumatism, which lasted several weeks. He has never had syphilis; has always been very temperate in the use of alcoholic beverages.

For the past two years he has suffered a great deal of pain in the right arm, extending down toward the hand; also in the right side of the chest. In January of the present year he discovered a "lump" in the right infraclavicular region, about the size of an almond. This lump grew slowly but steadily, and in March he discovered a distinct pulsation in it. The pain in arm, hand and side of the chest had become so severe as to be almost unbearable. He was unable to lie on his right side, and had done little or no work since May.

Upon examination I found a pulsating tumor about the size of a duck's egg just below the right clavicle. While he was in the erect posture the tumor would be very tense, pulsation expansile, bruit very marked and the tumor sensitive to pressure. In the recumbent position the tumor was much smaller, less tense, but still quite sensitive to pressure. Pressure upon the subclavian artery would cut off the pulsation entirely, and the tumor would become very flat when the patient was lying down. There was little if any difference in the pulsation of the two radial arteries, or in the size of the two arms. There was no evidence of valvular disease of the heart.

The following day, assisted by Doctors Bloch and Butler, and in the presence of the class at the university, I ligated the subclavian artery in its outer third with catgut of large size. The artery seemed to be in a healthy condition—not any larger than we would naturally expect the subclavian to be. The dressing was removed in four days and the wound found to have healed throughout its entire length. All the symptoms complained of before the operation disappeared at once. When the dressing was changed on the fourth day very little pulsation could be detected in the radial artery; the tumor was very much reduced in size, firm and without pulsation. To-day the tumor is about as large as a hen's egg, perfectly firm and without pulsation. The radial pulse is distinct but much smaller than that of the opposite side. The patient feels perfectly well and is anxious to return home, but I thought it best to keep him under observation a while longer.

This is the eighth case of the Hunterian operation that I have performed. In six of them the femoral artery was ligated in Scarpa's triangle for popliteal aneurisms; in one the external iliac was ligated. In this case the aneurism extended up to Scarpa's triangle from the popliteal

* Delivered before the Louisville Surgical Society.

space, and in the case reported to-night the subclavian was ligated. In all cases the result was perfect, and in none of them was there an untoward symptom following the operation. In a case of diffused aneurism of the femoral artery, which I did not see until after rupture of the sac had taken place, I ligated above and below the sac. Owing to the pressure upon the tissues by the great amount of extravasated blood and the failure to secure perfect asepsis, suppuration and sloughing ensued. On the twenty-first day after the operation secondary hemorrhage occurred from the point of the distal ligature, but fortunately Doctor Butler happened to be in the room at the time, and succeeded in clamping the artery before a great deal of blood was lost. After this the patient made a good recovery, and is now running a restaurant in this city.

The accidents following the Hunterian operation, viz.: a return of pulsation in the sac, inflammation and suppuration of the sac, gangrene of the extremities, pyemia and septicemia, I have never met with in any of the cases in which I have operated.

Extirpation of the aneurism, which was first practiced by Philagrias, of Macedon, in the fourth century, and which has been revived since the era of antiseptic surgery, I have never done. This operation seems to be the favorite at the present time with many operators. The special advantages claimed for this over all other operations are, removal of the dangers of emboli, which might give rise to gangrene, and the absolute permanency of the cure, the absence of secondary hemorrhage, the freedom from sepsis and the lessened mortality.

"Delbet places the mortality after proximal ligature at 18 per cent., that of total extirpation of the sac at 11 per cent.; the occurrence of gangrene after proximal ligature at about 8 per cent., and only 3 per cent. after extirpation."

Ransohoff, of Cincinnati, collected 28 extirpations of major aneurisms of the extremities without a single death. I have never done this operation, as I have stated before, and have seen it performed only once. That was two years ago. While visiting Johns-Hopkins University I saw Doctor Halstead do a total extirpation of an aneurism in the same locality as the one I have just reported. The tumor was much larger than mine. I think he was two or three hours in performing the operation, but I understand the patient recovered without a bad symptom.

In the discussion I would like for the members to give their experience in the treatment of aneurism by compression.

REMARKS.

Dr. H. H. Grant: Doctor Roberts does not give us the statistics showing the mortality after operations for aneurisms of the subclavian artery, but as we know, they show a high mortality, and he is to be congratulated upon his successful result. In the case he has reported, no other operation would really be advisable. The operation of total extirpation of an aneurism in this situation would be rather straining the advantages of surgery, and applying extreme measures; removal of the clavicle, extensive dissections and the dangers which attend it, the risk of suppuration which might involve the mediastinum, the likelihood of injury to the subclavian vein in an operation for the total extirpation of an aneurism of the subclavian artery together practically render it out of the limits of justifiable surgery. Of course it is possible for any one to interpret the conditions of such a complication to justify any kind of surgery in an attempt to save life, but conservatism and good judgment would indicate that it is not proper to extend an operation to such a degree as would be necessary in the total extirpation of an aneurismal sac in this situation. The risks after ligation would be very little greater, so far as septic infection or emboli are concerned, than after complete extirpation of the sac, and these risks would be greatly lessened by application of the ligature upon both sides, which is a precaution that is always advisable where the tumor is not so large as to make it necessary to perform extensive dissection. With a ligature applied on both sides of the sac a lodgment of emboli and subsequent infection would be prevented as effectually as when total extirpation of the sac was performed, and the operation is much more easily executed, and is safer.

With respect to gangrene of the extremities: This could certainly be no more likely after application of the ligature than after total extirpation. Like Dr. Roberts, I have never seen this follow application of the ligature, although there are no operative steps which would particularly prevent it. It is as likely to occur from the operative steps of one man as another, because it is due to a cutting off of the circulation.

I have had experience with but one case in which compression was tried. It was a case which presented at the clinic of the Hospital College of Medicine, with an aneurism of the popliteal artery, in which compression was made both instrumentally and digitally. Relays of students were employed to assist in digital compression, and a tourniquet, which was improvised, was also used to a in diminishing the circulation. After 24 hours, pulsation having entirely ceased, compression was removed. It is fair to say that instrumental compression was never complete, but it aided manipulation by the students in diminshing the circulation of the vessel. It was necessary to administer morphine to keep the patient quiet; pain was very severe, and the patient suffered extreme discomfort. Pulsation completely disappeared and the tumor became absolutely solidified. Two days afterward the patient left the hospital, without permission, of course, and in a week he returned with the tumor still solid. We have no subsequent information concerning him. The tumor in this case was fully as large as the one described by Doctor Roberts; pulsation was distinct, and there was also a distinct bruit.

Dr. F. W. Samuel: I have had experience in but two cases of aneurism by compression, which was by digital compression, a number of persons being employed to make pressure. Compression was used continuously for thirty-six hours by relays; in each case the popliteal artery was involved. Pulsation ceased in both tumors after a certain length of time (18 hours), but both patients returned for treatment later with both aneurisms pulsating and exceedingly painful. The methods that I would employ in such cases hereafter is extirpation of the sac with blunt dissection or double ligatures above and below the sac. I believe this is the best and safest method. It is more radical and there is less liability to septic infection. This would apply to all aneurisms that are operable. It might become necessary to apply a ligature upon the proximal side and leave it there, or we might put a ligature upon the distal side. Other methods, as introducing wire into the sac, etc., I believe in the main impracticable.

Dr. J. G. Sherrill: I had the pleasure of seeing two cases of aneurism in Dr. Grant's clinic at the Hospital College of Medicine. One case was operated upon surgically, the other treated by compression. The case treated by compression was a sacculated aneurism and a typical condition for the employment of that method. Compression will do very little good in cases of fusiform aneurism where the coat of the artery is uniformly dilated, because there is not enough blood accumulating to fill out the enlargement and cause occlusion. In the sacculated form a small portion of blood is allowed to run through the opening, and compression works very satisfactorily. It acts the same as nature cures these cases, by forming layers of fibrin concentrically until the sac is filled. In the other case a ligature was applied to the femoral artery, and it seems that the patient suffered more inconvenience after the operation than the patient did after compression. The leg was considerably swollen, bandages had to be applied to preserve warmth to the limb for a long time, and he made not so good a recovery in the case in which compression was used. Ligation and compression are the two preferable methods of treating aneurisms, and it depends upon the kind of aneurism as to which method should be employed. A method instituted by some Irish surgeon, who claims to have had good results, is an attempt to slow the heart beat. Reducing the heart's action by a light diet and the recumbent position, he says, 20 beats per minute, in 24 hours 2,800 beats are left off. In this way less blood goes to the part, and benefit is likely to follow, especially in sacculated aneurisms.

Dr. A. M. Vance: I have never been called upon to operate on the so-called idiopathic aneurism; every one that has come under my observation has been traumatic. Of two recent cases, one was caused by a gunshot wound, the other from entrance of a piece of steel. Both were femoral aneurisms. In one I ligated the vessel both above and below the sac and the patient recovered. In the other I dissected out the sac, which involved not only the femoral artery, but the vein also.

Dr. Thos. Butler (present by invitation): In regard to the case reported by Dr. Roberts, in which secondary hemorrhage occurred: It was a diffuse aneurism of the femoral artery which had ruptured into Scarpia's triangle. The leg was enormously distended, and the patient was taken to the clinic and Dr. Roberts operated upon him. There was great distention throughout almost the entire length of the femoral artery and from pressure there was gangrene. Four days after the operation I could remove portions of tissue and muscle as a result of gangrene. On the fifteenth day after the operation a little blood was noticed on the dressings; also on the seventeenth day. On the twenty-first day there was an alarming secondary hemorrhage. I was not present at the time, as stated by Doctor Roberts, but was sent for immediately. An alarming hemorrhage had occurred. There was little or no pulse at the wrist, but clotting had stopped the hemorrhage by the time I arrived. In removing the dressing hemorrhage was again started, and the bleeding point was thus located. It was at the destal extremity. Forceps were applied and left on for a week. The condition of the structures was such that a ligature could not have been successfully applied. The man afterwards made a good recovery.

Dr. J. B. Bullitt: I desire only to speak of the treatment of cases of aneurism which are inoperable, in the sense of ligating the afferent and efferent vessels, or by total extirpation. Quite a number of such cases have presented themselves for treatment at different times. I saw one recently in the Louisville City Hospital. For the relief in these cases a very old procedure has been revived, viz., to introduce a gold wire into the aneurismal sac, attempting thereby to procure the clotting of blood and the concentric formation of layers of fibrin, in this way effecting a cure. Quite recently I have seen two cases reported which seems to offer considerable encouragement for this method, and suggests that we should not always regard such cases as hopeless. The method adopted in these two cases was to take a hypodermic needle and plunge it into the sac, after the sac had been exposed; then by taking a fine gold wire, which would run through the needle, it was introduced into the sac. The report states that in both cases a clot was promptly formed, resulting in obliteration of the sac. One of the patients died three years later from an intercurrent affection, and post mortem showed that the aneurismal sac had been completely obliterated and the result was eminently satisfactory. In otherwise hopeless cases it seems to me that we might expect benefit from means of this kind.

Dr. W. C. Dugan: I have had several cases of aneurism. In one case I performed a total extirpation. It was a traumatic aneurism of the upper part of the femoral, and proved to be of the variety known as aneurismal varix, communicating with the femoral vein. We made a complete extirpation, because of the fact that the walls of the sac were extremely thin and owing to the delicate dissection necessary to accomplish its extirpation the operation proved quite a complicated affair. I do not know of any operation that I have performed that was a tedious as this one for the removal of an aneurismal tumor in the upper part of Scarpa's space. It was in fact the most delicate operation that I have ever undertaken. The sac communicated with a number of abnormal vessels, which we had to ligate, and finally it was found necessary to secure the iliac artery and several of the veins before dissecting out the sac. In this case we had gangrene following the operation, and for a number of days we thought the patient would lose her leg. The limb was kept elevated, and we applied artificial heat, and after several weeks collateral circulation became established, but she lost two or three toes from gangrene, and to this day her foot is not very good. She is a cripple and will be as long as she lives. It was a traumatic case, however, and one which necessitated heroic measures.

In regard to compression, I have recently applied this method in the case of a young colored man, who works in a stable, who, while jumping one evening, says he felt something give way in the popliteal space. His leg became swollen to almost double its normal size. He came to my clinic on crutches. My assistant saw him and could detect no pulsation in the tumor. His diagnosis was rheumatism, and the patient was given large doses of salicylic acid. It seems there was some mistake in writing or filling the prescription, and the patient received double the quantity intended to be prescribed. Again, instead of taking it at stated intervals, as directed, he took it just twice as often, so that he received extremely large doses of salicylic acid. He returned to the clinic at the end of three or four days, claiming that he was much better; the swelling was diminished, and the salicylic acid was continued. He came back in about a week, and my attention was called to him. He was on the examining table, and I noticed the swelling of the leg most pronounced in the popliteal region, and on examination found a pulsating tumor as large as a cocoanut; the bruit was so distinct that all the students examined him and had no difficulty in recognizing it. We applied in this case a rubber bandage, not expecting to cure the aneurism, but to carry him on until the session opened, when a surgical operation would be performed. But the tumor promptly became solidified, and in less than two weeks it was much smaller in size. Organization became perfect, the tumor became gradually smaller, and he is now able to get around without the aid of crutches, having no pain. I am satisfied he is well. Why we should have had a traumatic aneurism taking such a course I am unable to explain. It was peculiar, to say the least. At first there was swelling throughout the entire lower part of the leg, which has disappeared under the administration of salicylic acid. After subsidence of the swelling a distinct tumor could be outlined in the popliteal space. This was a sacculated tumor, the kind most favorable to this treatment. The bandage was applied in the form of a figure-of-eight, and it gave him so much pain the first time that he could not stand it, and it had to be removed. Just how long it was before the pulsation ceased I cannot say, as he was not under our observation. He came back from time to time, and when I saw him the second time it had ceased. I am sure he has had this tumor much longer than the time specified, and since the swelling and pain was controlled by the acid, I think that it was really rheumatism and had no connection with the tumor.

Dr. W. O. Roberts: I have not met with such good results from compression in the treatment of aneurism as the gentlemen who have spoken. I have tried it in several instances in years gone by, and have seen it used in the practice of other surgeons, and while improvement has resulted in some cases, I have never seen a complete cure from compression, and the suffering and discomfort from the treatment in most instances were great. For these reasons I long since decided that I would never try it again.

I have seen one case of aneurism cured by the application of an Esmarch bandage. That was in the practice of Doctor Yandell soon after this method was recommended. It was a popliteal aneurism. The Esmarch bandage was applied up to the tumor, so as to drive the blood entirely out of the limb below, then a figure-of-eight was applied above. The bandage was allowed to remain on for half an hour, and during that time the patient's suffering was intense. After one application consolidation of the tumor took place, and the man, so far as I know, has never had a recurrence. Soon after this case was treated I noticed in some of the medical journals reports showing that in a number of cases gangrene had followed treatment with the Esmarch bandage, and I was afterwards afraid to try it. My results have been so favorable by the Hunterian operation that I shall adhere to it, especially after seeing the great difficulty with which an aneurismal tumor was dissected out by Halstead. There were many branches coming off from the tumor, and I will not attempt to say how many ligatures he applied. This operation is such an extensive one, and the immediate dangers from hemorrhage and shock are so great, that I prefer the Hunterian method. If we should fail by the Hunterian operation, we can *then* resort to complete extirpation of the sac.

FRENCH MEDICAL SOCIETIES.

SOCIETY OF LEGAL MEDICINE OF BELGIUM.

Abortion.—M. Gabriel Corin—The question of abortion is often difficult to decide, and is one of those in which criticism is much easier for medical experts on behalf of an accusation than on the side of the defense. Why? Because a certain rule applied on the authority of Tardieu is considered as a reality by the majority of non-professional persons, but it interests also medico-legal experts. This

rule, established by Tardieu, is as follows: When a puncture of the membranes is made abortion succeeds it in from four to five days; the minimum limit is five hours, the maximum eleven days. Because of this law foolish discussions often occur during trials. It is a false law, and every occasion should be used to demonstrate it, and this demonstration will follow from the publication of each one of the facts we will produce, and will prove that the limits so authoritatively laid down by Tardieu are not exact. The following case, submitted to me for examination, induces its relation to the society. A young girl, pregnant for some time, membranes punctures on Feb. 17, exploration on March 31, vaginal touch discovered an abortion well advanced. There was a fetid discharge, cervix soft, dilated and a villous, movable tumor was felt. Speculum could not be applied because of her generally bad condition. On April 15 the movable body was expelled, more or less cubical in form, villous-like placenta; villosities under microscope consisted of fibrous tissue and polygonal cells. On the 15th of April there occurred the expulsion of a placenta, generally considered to constitute an abortion—"fausse couche"—which had been retained in the womb and expelled from it fifty-seven days after the manipulation that had determined the abortion. The legal counsel affirmed the authority of Tardieu for fifty-six days. The girl was acquitted. Since then there has been testimony confirming my opinion. Facts observed by others have shown that placental retention may continue for six months; it then becomes necessary to forcibly and constantly uproot false prejudgments.

M. Lebrun reported a case in which abortion was produced by the introduction of the finger into the cervix. The expulsion did not take place for a month or six weeks. M. Hendrix stated two interesting cases upon the same question. In the first the abortion, caused by the effect of an instrument, did not occur for six weeks. There was no placental retention, and the expulsion of the fetus and membranes was produced in a few hours. In the second, injections of the tincture of iodine in the uterine cavity were practiced, and five weeks thereafter a fetus of five months was expelled. M. Descamps: We are all unanimous in condemning the opinion of Tardieu. The limits established by him are not exact. Is it possible to determine maxima and minima limits? Generally certain elements are wanting, and one cannot always put faith in declaration made by interested parties, who have given false reports. As respects the causes provoking abortion, it is remarkable that in reality the determination of the phenomena of expulsion is often difficult. Medical practice often proves that when an abortion must be produced, for example in the case of uncontrollable vomiting, it becomes necessary, after puncturing the membranes, to employ auxiliary means, such as the application of laminaria, prepared sponge, curettage, exploration of the uterus, to produce expulsion. In my judgment the minimum time is from eight to ten days. Every case should be judged by all the elements belonging to it, the method employed, the time at which the operation is performed, indeed, all the circumstances that may be of any importance upon the question of average and exceptional limits. Gynecologists should give precise information taken from their usual practice. In all cases it may be said that the question of abortion is one of the most difficult in legal medicine, and often the physician will be compelled to say, "I cannot affirm it."

The Accidents of First Dentition and Their Treatment.—M. Champret: Children with their first teeth often suffer, which they manifest by agitation, grimaces, putting their fingers into their mouths, trying to relieve the pruritus that torments them with salivary hypersecretion, etc. The gingival mucous membrane is more or less inflamed, and every local complication may show itself from aphthous stomatitis to muguet thrush. Engorgement of the neighboring glands may occur, continue long and cause errors of diagnosis. There is fever and restlessness, and the buccal inflammation may reach the naso-pharynx and extend to the respiratory organs. Coryza is added to the pharyngitis and laryngitis, and the salivary hypersecretion increases according to the degree of obstruction of the nasal passages. In such cases there may appear a dry croupy cough, becoming serious if respiratory troubles, bronchitis, broncho-pneumonia should supervene. Digestive complications are frequent, particularly gastro-intestinal catarrh with vomiting and diarrhoea, stools yellow at first, becoming green and bloody, accordingly as there is lientery, enteritis or dysentery, child poorly nourished, assimilation feeble, weight decreasing, etc. The whole nervous system becomes affected by reflex action from the dental evolution, and every mother dreads convulsions. They may consist simply of grimaces or convulsive movements of the face or upper and lower limbs, but they may be much more grave with stratismus and mystagmus, internal convulsions, coma, leaving permanent evidences of their course. Chorea, according to some authors, is often from the same origin.

Numerous morbid affections of the skin are produced by dentition, vaso-motor troubles with pallor or excessive redness of the integuments, profuse sweating with sudamina and rubeolar erythema, urticaria, prurigo, impetigo and different forms of eczema. The organs of the senses are equally susceptible of attack by reflex action; otitis is not rare, in the course of the evolution of the teeth, conjunctivitis also, non-contagious and easily cured. Renal functional disturbances with limpid, colorless urine, becoming white because of the great quantity of phosphates it contains. Treatment, cleanliness of the mouth should, from earliest infancy, be maintained by frequent and abundant washing with a solution of the hydrate of chloral 1-100. This preparation is at the same time analgesic and antiseptic. The itching may be soothed by frictions upon the gums of a cocoaine preparation, made as follows:

Chlorhyd. of cocaine	15 centig.
Chlorof.	1 gramme
Glycer.	20 grammes
Ess. of roses	vi. gtt.

Salivary hypersecretion, which often coincides with the coryza, may be lessened by copious washing of the nose with a warm solution of boric acid or hydrate of chloral. The trouble caused by dentition, which will not yield to these therapeutic measures, will find a remedy by heroic gingival scarifications by both parallel and crucial incisions, and the wounds cleaned several times daily by sterilized lint dipped in weak phenic acid, scarifications should be made only when the tooth is about to perforate the gum, otherwise serious results may follow.

Ovarian Opotherapy; Ovarian Juice Cure.—M. Jayle—The remedy is harmless. In artificial post-operative menopause it acts particularly against congestive troubles, and in this respect seems to be superior to all other remedies heretofore employed. It has but little effect generally upon nervous phenomena whose amelioration, if any be produced, may be accounted for by suggestion. In the natural menopause, its success is less frequent, perhaps. The doses of ovarine should be given stronger than those usually employed by me. The remedy should be prescribed always in small doses at first, 0 gr. 10 to 0 gr. 50 daily. If unsuccessful, try larger doses, taking care as to the quality of the preparations used. It should be continued for a long time, and as a toleration is often produced, it would be well to admit intervals, varying the doses also. Ovarian opotherapy may be followed by a complete check in certain cases when it would seem to be certainly indicated, and without its being possible to give a satisfactory explanation of its inefficacy.

CONGRESS FOR INVESTIGATION OF TUBERCULOSIS.

Curability of Laryngeal Tuberculosis.—M. Castex, of Paris, protested against the opinion of incurability as given in classic descriptions of laryngeal tuberculosis. The school of Vienna was the first to show that this affection could be cured. During the last three years M. Castex observed seven certain cures. From a therapeutic point of view sulfurous localities and the seashore should be prescribed. M. Castex recommends the *sclerogenic method* by means of interstitial injections of the chloride of zinc (2 to 5 per 100). Theoretically grave accidents of oedema of the glottis might be feared, but experience has proved that the injections are perfectly tolerated, are harmless and painless, and yield excellent results. In certain limited tuberculoses, laryngotomy may be advantageously resorted to, as shown by M. Galis of Brussels.

Treatment of Cold Abscesses—M. Redard, of Paris, says the method of choice is the injection of iodoform oil, 10 p. 100, its efficacy is remarkable in closed abscesses, not so much so in fistulae. When the iodoform oil fails, or rather when the asbcess is very large, oxygenated water may be employed with advantage. But if, in the pure state, it gives too copious a foam and distends the pocket of the absoess, mix it in varying proportions, as in Luton's oxy-

genated serum with a solution of phosphate of soda, 1-10. In very large abscesses it is sufficient to inject a small quantity, 2 to 4 cc., of the mixture, repeat the injections every 10 or 15 days, 3 or 4 times.

Surgical Intervention in Vesical Tuberculosis.—M. Desnos, Paris.—The idea of attempting a radical cure of tuberculosis of the bladder should present itself the more readily to the mind of the surgeon, because this tuberculosis often continues localized in the urinary apparatus, at least in the organ primarily affected. Thus frequent operations of curettage and resections of the entire vesical mucous membrane have sometimes given relief. But this result is far from being the rule, and usually the benefit is null; moreover, says M. Desnos, I have observed unfortunate cases in which, after an intervention of this kind, the tuberculosis becomes generalized, through the whole urinary tract. In one case, in particular, I had practiced an energetic curettage of the bladder, which alone seemed to be affected. But in a short time, tubercular lesions extended from the kidneys—manifestly pyonephroses—to the meatus, at the extremity of which I excised vegetations that had developed along the canal, by the help of a permanent sound, and which a bacteriological examination proved to be tuberculous. All surgical intervention should not, however, be interdicted in tubercular cystitis, far from it. In painful forms hypogastric cystotomy is often indicated. But, in my opinion care should be taken to profit by the opening of the bladder to reach the mucous membrane, and whatever lesions may exist they should be respected; the bladder drained and cystotomy established. If the patient is careful of his fistula for a long period, at least a year, the pains not only disappear, but the lesions nearly always are ameliorated, which is explained by the permanent removal of congestion of the vesical walls and the suppression of urination. The interdiction of a bloody operation upon the vesical mucous membrane, as seems to me, ought to be henceforth established. In the less painful forms, injections of sublimate, of the oil of guiacol, give good results. Finally, general treatment and accompanying conditions have as great an importance as in pulmonary tuberculosis.

The Prophylaxis of Tuberculosis at Cannes—M. E. Guiter, of Cannes.—The prophylactic precautions against bacillar contagion that are imposed upon the stations of the Mediterranean have, for a number of years, earned a well deserved reputation for the cure of tuberculosis. It has been our duty not to neglect any of the preventive measures, and to establish the fact, first, that the dangers of tubercular contagion are less upon the coast than anywhere else; second, that the methods applied are of a nature to reduce to a minimum the dangers of contagion. The conditions, existing in the open air, and in exposure to the sun's influences, are the first causes of immunity to those hibernating among us. The almost continuous and intense solar illumination in our region is an active agent in the rapid destruction of germs. The rooms of our patients are flooded nearly the whole day by the sun's rays, and the infecting properties of the toxic dust are promptly destroyed. During the summer the preservation of movable articles in this region of elevated temperature requires heating and exposure to the air of hangings and stuffs, and completes the germicidal action of the solar rays. All other precautions against bacillar contagion are equally put and maintained in practice. The use of the portable "crachoir" spittoon of Dettweiler, of Vaginer or of Petit is easily accepted; it contains an antiseptic liquid, and our recommendations for its use are always heeded. Moist sweeping is substituted as far as possible for dry, and we resolutely make war upon bed curtains, useless hangings and furniture heavily stuffed and too luxurious. The Society of Medicine of Cannes has organized a disinfecting service, not only after death, but after the passage of patients affected with open tuberculosis. The use of the drying stove of Herscher and Genste to all transportable objects that can endure without injury the action of vapor under pressure, bathing toilet articles in sublimate, marbles, tile flooring, etc., in fine, surface disinfection by the vapor of formal by means of Tillat's autoclave (1 litre of formochloral to 38 per cent. by 100 cubic meters in prolonged contact for 12 hours with disinfecting vapors). The experiments of Berlioz, Nicolle, Riestch and Arronhson seem sufficiently conclusive in favor of this process, the only one that we can introduce into our apartments, because pulverization of the sublimate can only be truly efficacious by complete impregnation of stuffed materials, and proprietors are unwilling to accept it because of the inevitable deteriorations it produces, and the employment of it is most generally limited to a timid sprinkling, a mere pretense of disinfection. The surface action of formaldehyde combined with stove vaporization and antiseptic washing, is also admitted. Two hundred and fifty-six disinfecting processes were made at Cannes during the season of 1898, and there are statistics of 1,213 during preceding years. All of these are under the control and direction of the Sanitary Bureau, and if we add to these measures the inspection of dairies, inoculation of cows with tuberculine, inspection of butcher's meat, and constant flushing of the sewers with fresh water, we shall have sufficiently established hygienic methods in the city of Cannes.

Results Obtained Upon Man and Animals by the New "T. R." Tuberculine of Koch.—M. Benoit, of Paris.—I desire to signalize simply and briefly the results of the application of Koch's new tuberculine upon man and animals. In a few months details will be given confirmatory of the statements now made before this congress. The medical public still remembers the old tuberculine, and he hesitates to accept the appearance of the new "T. R." It is an extract from the body of the bacillus obtained by subdivision and by centrifugal action deprived of tuberculine that gives its characteristic reaction. The old tuberculine immunized against toxine, the T. R. tuberculine immunizes against the bacillus itself, and its harmlessness is absolute when well employed. One cannot speak definitely of T. R. without a long experience of it. My friend, M. Dauriac, and I were the first to make injections of tuberculine from the time of its introduction into France, and we think that it is yet too soon to conclude concerning it one way or the other. The results published by M. Dauriac are well known, and we propose to add observations and experiences confirmatory of those already acquired. All the experiments made for the purpose of immunizing guinea pigs were detectively combined, and it is true that the somewhat exaggerated price of the article has contributed not a little to delay our experiments. In order to immunize the animal, one should begin with a massive injection of 20 to 30 millig. into the peritoneum, and I insist upon the intraperiteneal cavity. The details of this method will be known in a few days through the next publication of a memoir by Max Beck, assistant of the Institute for Infectious Diseases in Berlin. The guinea pig is immunizable and when infected is curable. (We shall begin the experiments signalized by this author and whether conclusive or not, they will be published impartially.) To finish with the experiments of the laboratory, we added tuberculine to the cultures of tubercular bacilli, and like the author, have proved tthe arrest of the evolution of the cultures, but have not considered these trials in view of the explanation of the action of tuberculine. Koch, by slowly introducing into the organism doses increasing in strength of constituent parts of the body of the bacillus, produced a gradual toleration by the organism of the presence of the bacillus, then its entire toleration, and finally its elimination. There is then a reaction of the organism which plays the principal part in the mechanism of immunity, a reaction which is wanting in the culture tube. To human sight the action of the tuberculine T. R. is clear and effective. Heretofore treatment has been applied in desperate cases in which the tuberculine was employed as an "ultima ratio," a last resort, but this is to mistake the idea and purpose of the new tuberculine. Let it not be forgotten that it cannot act effectively upon patients with softening—ramollissement—and with secondary affections. Microscopic examination is the only sure and absolute guide; for in those who have fever, if they are purely bacillar, they are fit subjects for treatment. In these, from the beginning of the injections, the fever subsides, the contrary being the case in those having microbic associations, and in whom the fever rises from the first, if they are treated. It results, however, from our observations, both in the city and in the hospitals, in which tuberculous caverns are the rule, that even these patients when treated by T. R. have their lives prolonged in an astonishing manner. In the first, and to the second degree, without secondary infection, T. R. acts without any sign of infection or of consecutive accident, if the injections are carefully employed and in an aseptic and prudent manner. The night sweats gradually disappear; expectoration, before green or yellowish green and nummular, becomes clearer and aerated; the bacilli diminish, and have disappeared in a few cases as yet; appetite returns, patient gains

weight and feels stronger. These effects show themselves as rapidly in visceral tubercles, particularly testicular and vesical. In the latter, the pains of cystitis disappear from the first injections. As respects osseous and laryngeal tuberculosis, there have been no marked results as yet, and there is more chance of success when there are no tuberculous collections, as is so often the case in old secondary infections. Finally it is said that the injections should be made methodically and regularly, and the doses increased. This is entirely untrue. In our experience the injection should be repeated only when the first has been completely absorbed, gives no reaction, and there is no induration at the point of puncture. If this rule is neglected there will be a painful erythema and fever; the increase of dose should be guided by the toleration of the patient. To resume: The new T. R. tuberculine of Koch has no harmful action, and when well employed causes no accidents that may result from the method of application. It immunizes and cures the guinea pig, and in human tuberculosis this treatment, which we believe to be the only one at our disposal, can and should be tried; but the choice of patients, their examination, and a perfect method based upon a complete experience of T. R. and its employment are the indispensable factors of success. To conclude definitely upon T. R. is impossible; it is too soon. The future alone can instruct us.

FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. CONGRESS OF NANTES, AUGUST 4 TO 12, 1898.

Vapors with Base of Eucalyptus in Croup.—M. Bonamy. Nantes.—In the isolated pavilions of the hospital, diphtheria was treated by an atmosphere of eucalyptus vapor, and during the time there was not a single example of contagion or broncho-pneumonia, the secondary and dangerous complication so frequent in croup. The vapor was obtained by means of pulverizers placed near the bed of the child, and contained 50 grains of the eucalyptus to the liter. It operated without interruption, so that the atmosphere was soon saturated. Thanks to the warm vapors and the penetating balsamic odor, the little patients soon evinced improvement, the fibrinous exudations softened, and the false membranes that were thick and adherent were converted into a deliquium easily detached by the efforts of coughing. Any interruption in the operation of the apparatus was immediately followed by renewal of the consistence of the exudation and of the dyspnoea. If in diphtheria serotherapy is an immense benefit, its effects in croup are more remarkable if seconded by these vapors before and after the operation. I would add that the choice of the vapor is not a matter of indifference; the eucalyptus seems to be the best.

Semeiological Value of Tachycardia in Tuberculosis—M. Sirot, Beaune.—When, in a thoracic affection, the patient being convalescent and apyretic, the pulse continues between 94 and 110, tuberculosis may be suspected. On the other hand, in apyretic confirmed tuberculosis there is a relation between the frequency of the pulse and the gravity of the disease, tachycardia is always a bad sign, it indicates a rapid progress and a fatal issue. Apyrexia with tachycardia shows that the disease will progress rapidly, and that the patient will be exposed to many chances of dying by syncope when the pulmonary lesions shall not seem to the physician to indicate a speedy termination. MM. Durand and Mongour, Bordeaux, had reached the same conclusions with M. Sirot. Tracheo-bronchial adenopathy and cardiopathy being eliminated from the question, it may be said that in tuberculosis of slow progress, apyretic or not, the situation is grave if the pulse keeps above 100, and desperate if it passes 120 for many days; every real amelioration in the course of tuberculosis is followed by a diminution of the pulse. In the tuberculous, curable or cured, the pulse is normal as to the number or diminution of pulsations. Examination of the pulse then is of capital importance, since, isolated from a group of other physical or functional symptoms, it suffices to diagnosticate curable forms or at least those of slow progress. In the tachycardiac who have succumbed the heart is constantly found to be affected with myocarditis; the myocardiac degeneration and the tachycardia are probably due to toxic impregnation. M. Arthaud, Paris, thought, on the contrary, that the tachycardia of tuberculosis was due to the increase of the labor of the heart following the progressive impermeability of the lungs. M. Papillon, Paris, said that tachycardia, in the course of pulmonary tuberculosis, was due sometimes, doubtless, to cardiac lesions, but much more frequently to the depression of arterial tension. Tachycardia is a function of arterial depression, and both together constitute a function of tuberculous infection. Three different periods in the evolution of pulmonary tuberculosis may be designated: First. In the beginning, before the appearance of any stethoscopic signs, arterial pressure is diminished and the pulse is accelerated. At the same time a very transient sign may be observed, which I propose to call the "pulse of Wells," of a hasty, hurried character, and an invariability of rhythm in changes of position. Second. Later on the evolution of tuberculosis is manifested by acute attacks, separated by intervals of respite. Each one of these attacks is announced some days in advance, by depression of the arterial pressure and an acceleration of the pulse. Third. When the disease is in process of cure, both the arterial pressure and the pulse become normal. To resume: Tachycardia in pulmonary tuberculosis is with arterial hypotension a presumptive sign either of tuberculous infection not yet diagnosed, or of a new acute attack in the course of an evolution of tuberculosis.

Contagion of Phthisis—M. Acard.—I have observed a certain number of cases of contagion of tuberculosis, of which the following may be considered typical. A robust workingman of 27 years lost his first wife by pulmonary tuberculosis; she left a child. He had nursed his wife with great devotion. He married again and soon manifested signs of phthisis. The second wife became pregnant, and during the sixth month of her pregnancy a tuberculous abscess appeared upon his fifth finger. The woman was delivered; her husband was at the Hospital St. Antoine. He returned to his home and in a short time the first child died of tubercular meningitis. The second wife returned to her mother, and contrary to advice, suckled her child, and died of rapid tuberculosis, her child soon following her with mesenteric tuberculosis. A new family occupied the same locality, and the wife is now in one of the hospitals, affected with phthisis pulmonalis.

Treatment of Phthisis by Inhalations of Formol and Carbonic Acid.—M. Cornil.—Formol in the pure state is irrespirable, but if mixed with carbonic acid can be used in the treatment of pulmonary tuberculosis. The inhalations last from 15 to 20 minutes—the maximum—and under their influence the expectorations become white, the rales diminish and the pullulation of bacilli manifestly decreases. The inhalations have yielded good results at the Hospital Villepinte, Russia, in the treatment of asthma; they have wrongly been accused of producing hemoptysis.

Treatment of Lupus by the Method of Dr. Finsen.—M. S. Bang, Copenghagen.—Since 1895 Finsen has employed the bactericidal action of light in the treatment of lupus. His first efforts were made to determine what radiations were the most effective for this purpose, and he demonstrated that by employing the very intense and concentrated light of a voltaic arc of 50 amperes, the microbicide action, which was very feeble in the red region, increased slowly in the yellow and green regions, and rapidly mounted in the violet and ultra-violet to an intensity 300 times greater than in the red. In order then to obtain a therapeutic action, it is necessary to use the violet and ultra-violet rays. When solar light is employed, in order to concentrate it, it should be made to traverse a convex lens of 20 to 40 centim. in diameter, and to arrest all other rays except those that are useful for the effect desired, a hollow lens is filled with an ammoniacal solution of the sulphate of copper. The blue and violet rays alone pass through, and others, especially the caloric rays of the spectrum, are arrested, so that there is a protection against the caustic action of heat. The blue rays unite in a focus, near which the diseased part is to be placed, not exactly in the focus, because there is a certain amount of heat that may be disagreeable to the patient. As solar light is not always convenient, M. Finsen has utilized a voltaic arc as a luminous source. Here there are divergent rays which must first be paralelled, then concentrated, hence the necessity for an optical apparatus with successive lenses. These lenses were at first constructed of glass, now they are made from rock crystal, which permits the passage of the larger portion of the ultra-violet rays, while the glass retains a great number of them. The lenses of rock crystal of large dimensions not being obtainable, it has been necessary to diminish the diameter of the apparatus, and consequently to make them of the same proportion as the voltaic arc. In the first apparatus the concentrated pencils of rays traverse a glass of parallel laminae filled with a copper solution. The em-

ployment of this ray-filter has been abandoned, and an apparatus for the continuous circulation of cold water upon the skin of the patient is applied, thus rendering unnecessary the arrest of calorific rays. To affect a dermatose by concentrated light, it is not sufficient to cause optic rays to fall upon the skin. The tissues filled with blood are relatively opaque for spectrum rays, and it is absolutely necessary to render them exsangueous; then they become permeable. M. Finsen invented a glass compressor of suitable form to be applied to the diseased region by mean of elastic bands. For this M. Bang has substituted an apparatus composed of two plates of rock crystal, between which a current of water circulates. This is a great improvement. The application lasts about an hour. Take care that the luminous cone falls perpendicularly upon the glass of the compressor. During the application and immediately after no effect is produced, no redness is seen, and the patient feels no pain. Signs of a slight, painless inflammatory reaction appear six or eight hours after the application, with very often a serous oozing and the formation of vesicles, which dry up quickly without suppurating. The cure of lupus by this process is absolutely painless. Its only inconvenience is the length of time required; in some cases, no amelioration occurring for three or four months. The results obtained during two years are extremely remarkable. At the Copenhagen Institute 35 complete cures of lupus vulgaris are recorded, without counting 20 patients under treatment and nearly cured, and a number of others being benefited. It must not be forgotten that a large number of the cases are affected with lupus in a very grave form. Certain of them have been treated for 12 or 15 months without being completely cured, but all are more or less greatly improved. As respects relapse, the method is yet too new to be able to pronounce positively upon it. The first case treated has been without relapse for three years; a dozen cases have continued cured for a year; others for several months; in none of them has there been a real relapse. The results are less favorable in erythematous lupus, upon which the treatment has generally but little influence.

Radiography in Coxalgia, Especially in Its Beginning.—M. Redard.—Radiography renders valuable service in the study of alterations of the articulation of the hip, which are accessible with difficulty to clinical exploration because of their depth, and the thick muscular masses that cover them. It is particularly at the beginning of coxalgia that this method of investigation permits certain diagnosis, and, inversely to establish the fact of the integrity of the joint in false coxalgia. As respects treatment, radiography furnishes also valuable indications, by making it possible to recognize the exact seat of articular or osseous lesions, to determine displacements, deformities of the femoral head and the pelvis, the presence of sequestra or of purulent collections and periarticular modifications and changes.

Insanity of Doubt and Psycho-Therapy.—M. Berillon, Paris, had occasion to see a patient, already seen by Legrand du Saulle, who presented curious phenomena. This man, very intelligent, with a very cultivated mind and occupying a prominent position, was continually pursued by a vision representing to him the genital organs of a woman. This obsessive and besetting idea poisoned his life, and sometimes caused him crises of despair. In 1874, during the Commune, he fought and exposed himself to danger, and during this period his obsessive idea faded away and he experienced relief. Some years thereafter he was again afflicted by the same idea and sought the care of M. Berillon, who attempted to put him to sleep and suggest to him. This therapeutic method gave him some relief, but he had many relapses. About the same time M. B. observed a case of insanity of doubt in a girl of five years, whose mental troubles succeeded to a fright. She believed that she had swallowed pins, would not sit on chairs because she pretended that unclean persons had occupied them before her. The suggestive method was tried, gradually sleep was produced and during sleep an effort was made to banish the obsessive ideas. The result was very satisfactory despite many relapses. M. Morin, Nantes, inquired how M. Berillon obtained hypnosis. He replied that his method was long and painful, and required much patience. He remarked that the more intelligent and mentally cultivated the subject was the more easily he slept; thus philosophers, men of letters and physicians slept easily. In children, the more intelligent they are the more easily is hypnosis produced. It is necessary to fatigue their eyes, and speak to them of sleep, to put a chair before them and persuade them that there is an irresistible necessity for them to sit on it. Finally, when these methods fail, it becomes necessary to present himself before the patient at the moment of natural sleep, when overcome by fatigue he yields to sleep; then one usually succeeds.

Inconveniences of Bromine.—M. Malherbe, of Nantes communicated in his own name and that of M. Sehat, an observation of a young girl of 20 years, epileptic and subjected to the use of the bromide of potassium. The remedy produced intense cutaneous lesions. There were mushroom ulcerations on both legs, and vegetations of a special brown color. Analogous facts are unfrequent, one case published by Talyor in 1891. M. Vian, Grand Marais, Nantes, said he had employed the bromide of strontium in large doses in diabetics without the slightest cutaneous accident, and had obtained great relief in diabetes from this remedy.

Vanadine; Its Stimulating Influence in Tuberculosis.—MM. Helonis and Delarue.—Vanadine is a solution of a pervanadic salt with a slight addition of oxydizing substance. The pervanadic salt possesses the property of rapidly oxydizing under the action of a particular agent, organic and alkaloid bases, toxines, ptomaines and the salts of the bases. First, vanadine is not toxic; second, it exercises a stimulating action upon the functions of the organism; third, it is particularly favorable in diseases caused by enfeebled nutrition; fourth, it is a remedy of choice for consumptives, to whom it nearly always gives appetite, and contributes powerfully to increasing the strength and vital forces. J. A. C.

TRAUMATIC RUPTURE OF PANCREAS: FORMATION OF HEMORRHAGIC CYST: OPERATION, FOLLOWED BY A PANCREATIC FISTULA AND RECOVERY.*

Doctor H. W. Cushing, of Boston, reported a case in which a blow on the abdomen caused a rupture of the pancreas, followed by the rapid formation of a larger pancreatic cyst, which simulated closely an abdominal aneurism. Five weeks after the injury Doctor Cushing evacuated the cyst through an abdominal incision, and drained it. The wound in the pancreas was found near the omental tubercle, but the critical condition of the patient contraindicated any attempt to suture it. For two days the patient was quite dangerously ill. On the third day following the operation a subphrenic abscess was evacuated spontaneously through a bronchus and the patiently rapdily recovered. There was a profuse discharge of pancreatic fluid from the abdominal wound. The cyst contracted rapidly to a small sinus which healed on the eleventh day after the operation. The case during its convalescence furnished the rare opportunity for an investigation of pancreatic fluid in a human subject. This showed a fluid strongly alkaline. Sp. gr. was 1011, instead of 1030, as is usually stated. It removed the epidermis of the patient whenever it came in contact with it causing great discomfort. It did not effect the peritoneum or granulation tissue. The rate of secretion was measured. It varied from 5 to 60 c.c. for one hour. The maximum increase was during digestion. The total daily amount was 500 to 660 c.c., or double the amount generally stated by physiologists. The complete analysis and the physiological reactions were reported in full.

The features of the case which attract attention and interest are the character of the injury which caused the pancreatic lesion; the difficulty of diagnosis; the complication of a double parotitis, and its connection with abdominal injuries; of torticollis; of a subphrenic abscess with its origin and course; of the rare opportunity to investigate human pancreatic fluid, this being the only report known to the writer where its rate of flow and the daily amount of fluid has been measured.

The patient when last seen fifteen, months after the injury, was well and showed no functional disturbance of any alimentary process.

Dr. W. W. Keene, of Philadlphia, stated that he had seen one case, and Dr. Halsted, of Baltimore, had seen four or five cases of pacreatic cysts.

* Abstract of paper read before the American Surgical Association, 1898.

Dr. T. F. Prewitt, of St. Louis, referred to a case of enlarged spleen, with which was connected a cyst of the pancreas. After operation the patient made a good recovery, and a similar result followed operation upon a tumor in the median line believed to have been due to a pancreatic calculus.

CORRESPONDENCE.

BADEN-BADEN, AUGUST 8, 1898.

MESSRS. EDITORS: You will remember that some time ago an article appeared in the TIMES entitled "Albuminuria Non-renal in Origin." At that time a few of my colleagues were disposed to assert that an albuminuria could not exist without a kidney lesion.

Since my arrival here I have given the subject a rigid study and I am going to give you the opinions of two eminent scientific investigators of Germany.

Prof. Paul Furbringer, in a recent lecture, stated "that those days are long over when the existence of albuminuria, even without engorgement, passed for a characteristic of a renal malady. On the contrary, my firm conviction that at least a tenth part of all healthy persons excrete at times albumin with their urine has brought me to consider the question, whether albuminuria is to be considered in every case as a symptom of illness, or whether it is reconcilable to what is commonly known under the name of 'health.'"

Senator has shown himself to be a firm believer of the theory of physiological albuminuria. He considers it as a mixture of the transudation of the glomerular vessels, poor in albumin, and of the non-albuminous excretion of the urinary canaliculi.

According to him the incessant variation of the pressure and rapidity of circulation in the vascular glomeruli, the variability of the excretion of the tubuli urineferi, suffices to explain the presence or absence of physiological albuminuria, according to the time when the test is made.

The presence of albumin is merely one particular symptom, and proves no more kidney disease than, for example, a systolic murmur at the mitral valve proves organic heart disease.

The diagnosis of a kidney lesion must depend upon the careful microscopical examination.

It is impossible to distinguish the physiological albuminuria, and such which is produced by non-renal disease, from the excretion of albumin caused by anatomical lesions.

During my service in the Hahnemann Hospital of Philadelphia, injuries of the elbow joint caused me more anxiety than any other condition I had to deal with.

The experience of all surgeons show that mistakes of diagnosis are frequently made in fractures of the lower end of the humerus and with dislocations of the radius and ulna.

One of the main reasons for errors in diagnosis is the rapid swelling which comes on in these cases, and a surgeon who sees a case weeks after the reception of the injury may have no difficulty in recognizing a mistake in diagnosis made by a surgeon who examined the case immediately after the accident.

These cases should teach us to be more charitable when dealing with mistakes made by others.

Judging by the cases I have recently seen—incomplete displacements of the ulna and radius backward are as frequent as the complete form, though of course that this may be due to the easier diagnosing of such cases by means of the X-rays.

Ankylosis of the elbow joint following fracture is quite common. It is frequently due to improper approximation of the divided surfaces. There are, however, many other causes.

To get satisfactory results it is absolutely essential to keep the fragments in position. In obscure cases an exploratory incision followed by nailing the separated fragments has brought about good results.

In the treatment of injuries about the elbow joint, the extended position is at first the best position in which to put up the limb, later it may be gradually flexed.

Passive motion of an injured joint I seldom practice. I am of the opinion that one case in which stiffness followed was the result of excessive manipulation; the joint after a fracture should be kept at rest for at least six weeks.

J. HUBLEY SCHALL.

FOREIGN CORRESPONDENCE.

Editors of THE MEDICAL TIMES.

At the suggestion of one of my friends I decided to again visit London and Paris this summer on my vacation and see their time honored institutions. On leaving I received on my request from Hon. John W. Keller, President of the Department of Charities, a letter of introduction of inestimable value to me, which gave me an entrée wherever presented.

My first visit in London was to Guys' Hospital. On presenting my card with my letter of introduction I was received and given a guide, who accompanied me on a tour of inspection of the hospital. That which strikes one who is in the hospital life that I lead, most forcibly, is the ancient and time worn condition of this venerable institution. After visiting the wards, which were as clean probably as they could make them, we came to the surgical amphitheater and smaller operating rooms. The idea of asepsis was wanting, and there were tables which never could be made aseptic, and wooden closets containing instruments in old fashioned cases, and with a general lack of what is expected and which exists in our hospitals. My visit was disappointing, for I had come to learn, and found a condition of affairs which might have existed in some institutions, ten years ago. The feature particularly noticeable in the Training School for Nurses was the inefficiency of the training given. There were no diet kitchens nor were the nurses supposed to do any dressings; they were in fact relegated to the positions of helpers. On inquiry I found that they were going to introduce the diet kitchen. The nurses were not taught to take notes, and their principal work was purely the ordinary nursing and preparing the trays for the physicians.

St. George's Hospital has in construction an amphitheater, the latest in London, which is well arranged and up-to-date, but here also I found a careless disregard of asepsis. The wards were pleasant, but the iron bedsteads in use with ticking and bed cords make it impossible to keep them clean.

The delivery room of the obstetrical division was small, incomplete and lacking in all aseptic essentials. If this hospital is the best London affords, and it is so regarded, we can congratulate ourselves that we are far in advance in hospital requirements and modern improvements.

In the homeopathic hospitals I found, much to my surprise, the most complete set of sterilizers, and the daintiest operating room and wards I had seen. Through the courtesy of Dr. Thompson I visited the entire establishment, including a charming home for nurses. That I was pleased, goes without saying. I found asepsis fully carried out here, and a new filter for irrigating, which, if it does away with sterilization under pressure, will be of great value. They were using the nitrous oxide gas and ether inhaler, a combination made with the Clover inhaler, whereby the gas is followed by the ether without any of the unpleasant effects of the ether combination.

In reference to the kitchens I must confess that I never saw better appointments. They were clean and the food looked tempting. Of the Paris hospitals I can say the same, and I was particularly well pleased with the Hotel Dieu and the Boucicaut.

In Paris my letter introduced me to the Secretary of the Prefect of the Seine, who instructed me to apply to the bureau de Sante, for a card, which was furnished by this board, and which introduced me into all the institutions under their charge. From the secretary of the Prefect of Police I also received the kindest consideration. Thus introduced I found my way made pleasant and in time visited a few of their hospitals, only to find that they were not equal to ours, although better in many respects than those of London. The same general want of asepsis was noticeable, except in the new Boucicaut Hospital founded by Madame Boucicaut at de Passy.

Here were wards built after the most approved designs. Operating rooms well furnished, and a maternity which was a model—still with all their newness, pus cases were in their beautiful wards. Why this should have been was a problem, but as I thought over what I had seen I remembered there were unsterilized pads in the operating room. The underground system was perfect and the ventilation fine. I saw an enameled douche pan there which takes the place of a Kelly pad. It was just the thing for dressing cases on, and has the advantage of cleanliness over the pad.

In Saltpetriere I had the pleasure of seeing Dr. Charcot's clinic. It was quite a novel sight: its patients all seated on a raised platform or table receiving electric treatment.

I was very much interested in the laundry, which had very little modern machinery, all the washing being done by hand after the fashion of river laundresses, and in an old woman, 150 years old, possessing all her faculties and with whom I had the pleasure of talking.

In making a comparison of these institutions visited with our own, I find that we are ahead of them in aseptic methods, cleanliness of wards and training of nurses. As far as teaching is concerned, that did not enter into my thoughts, but I am sure that our hospital men have as many advantages, and are more truly taught aseptic methods here at home, than they can be abroad if what I saw is a criterion upon which to base my judgment.

It was very unfortunate for me that I did not have the pleasure of meeting the heads of the hospitals which I visited, for they might have given me a better insight into their workings, but I do remember with pleasure the lady in charge of Guys' Training School for Nurses, who so kindly gave me a brief half hour of her time—with both pleasure and benefit from her acquaintance.

If you can imagine yourself ten years behind the times you can see all that I saw, except in isolated cases.

GEO. TAYLOR STEWART, A.M., M.D.,
Chief of Staff and Medical Superintendent, Metropolitan Hospital, Dept. Public Charities, New York City.

"SUICIDE" IN ANIMALS.

That *felo de se* occasionally occurs in the animal kingdom has been stubbornly maintained by writers of ability and intelligence, and numerous instances have been recorded in substantiation thereof, but the unprejudiced observer is usually able to account for such fatalities upon a more reasonable hypothesis.

First, the theory that suicide occurs in the animal kingdom presupposes a degree of intelligence—a power of reasoning from cause to effect, an understanding or knowledge of the phenomena of life and death—on the part of animals, which does not exist. That animals possess intelligence, even to a greater degree than has been conceded, the writer is ready to admit, but he wishes to question the premise that they have the faculty of reasoning, or connecting thoughts, if even the animal "thinks" as we understand the process.

It is anticipated that adverse critics will resurrect the the old story of the beaver to offset this argument, viz.: that this animal cuts trees, hauls them to the stream across which he arranges them and builds a dam, that his house may be protected, that his winter supply of food may be collected and stored, etc., etc., and that in so doing he has an "object in mind,"—that he reasons from cause to effect.

This evidence of intelligence on the part of the beaver has no greater significance, nor does it prove anything more, than equal exhibitions of intelligence on the part of other animals, many examples of which might be cited did space permit. Natural instinct, supplemented by the influence of environment and inherited disposition, is the only rational explanation, though many other theories have been suggested.

Second, if animals possessed a degree of intelligence, reasoning or thinking power, to enable them to understand and appreciate the phenomena of life and death—to know the meaning of suicide, to consider adequate reasons therefor, and means for its consummation—there would be few domestic animals on the face of the earth, for the abuse to which they are subjected would be sufficient reason for committing *felo de se*. For instance, what poor cart horse would not infinitely prefer death to being beaten and kicked around so long as life remains in his body, compelled to drag heavy loads through muddy streets when so poorly fed, ill and weak that he can scarcely stand? What is there in life under such circumstances to induce him to cling to it.

There recently appeared an interesting article on Animal Tragedies in *Popular Science News** wherein the author reports briefly a death in the *genus bovis* from hanging by the neck in the forks of a tree, and refers to several fatalities occurring in other animals, none of which, however, were seen by the author personally, though he presents an illustration showing the cow partially suspended in the forks of a tree, claiming that she was discovered in that position several hours after death had taken place.

To briefly consider the principle features in this particular case: First, no one admits having seen the cow in the position shown until long after death had occurred.

Second, so far as is known the *genus bovis* has never attempted to adopt the habits and mode of living of the *genus sciuridae*, and such an attempt, *in rerum natura*, could only result in signal failure.

Third, the length of the average Jersey cow from the horns to the extremity of the vertebral column proper, *i. e.*, exclusive of the caudal appendage, in conjunction with her height from the ground to the top of the rump, would make it highly improbable that she could, by standing upon her hind feet, place her head and horns through the forks of a tree at a point 8½ feet from the ground.

Fourth, with the forefeet resting against the trunk of the tree, as would have been probable had she been standing upright reaching after leaves, her head could not be placed between the forks of the tree owing to the shortness of her neck. This accident could not possibly occur except that the slipping of her forefeet, one each side of the trunk, might allow her head to fall between the forks, which would also be highly improbable.

Fifth, the author presents no data as to whether there were evidences of a struggle after the animal was caught in the forks, and in the absence of such evidence the conclusion is warranted that the body was placed post mortem in the position found. Death would likely not be instantaneous following such an accident, granting that it could occur, the animal would naturally struggle to free it sef, and evidences thereof would be discernible.

The theory of suicide is absolutely untenable, as is also in this case the theory of accident, therefore the only reasonable explanation is that the body was placed in the position found, other statements to the contrary notwithstanding.

The main object of these notes is to record two fatalities in animals occurring under rather peculiar circumstances. These cases have not previously been published, as the deductions therefrom were regarded only as of minor importance. A statement of the facts, however, may not be uninteresting.

Formerly it was the custom of the writer to spend a portion of each year in the woods and fields, partly for recreation and sport, partly for observation and study. During one of these seasons he found the dead body of a fawn with its head between the logs of a fence at the edge of the wood. The fence was made of poles or logs constructed according to the plan of the ordinary rail fence, the aperture at one corner, through which the animal's head had been passed, being twelve inches; at the other, where the animal was found dead, it was little more than two inches. The animal had been dead but a short time when discovered, and the body had not been mutilated by any of the carnivorae. It was fully two-thirds grown, and a female. She had evidently come to the edge of the undergrowth to feed, and to reach green vegetation on the opposite side of the fence, had put her head between the logs at the corner where the aperture was twelve inches, and as she grazed moved toward the other corner 16 feet distant where the aperture was barely two inches and through which her head could not be withdrawn, and being unable to extricate herself died. Death was not due to a broken neck, but from starvation, the body being greatly emaciated. The length of time the animal had been entangled can only be conjectured. Had it possessed the power of *reasoning*, as claimed by some superficial observers, extrication by simply working its way back to the point of entrance would have been easy.

The second case is the following: A valuable horse at evening was turned loose in a small lot around which was a picket fence five or six feet in height. The pickets were sharpened at the upper extremity and securely nailed to scantling extending from post to post.

During the night, in an attempt to leap the fence, the horse was caught on the pickets, two of which were forced several inches through the abdominal wall into the cavity and during subsequent struggles to free himself he was almost completely disemboweled, his nearly lifeless body being found impaled the next morning. Death took place soon afterward. In this case it is doubtful whether life

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could have been saved had the animal been discovered shortly after becoming impaled, owing to the extent of the injuries sustained.

Here is a brief record of two fatalities which might be attributed by superficial observers to suicide, but such a theory would be untenable from every reasonable standpoint. Death in each case was clearly due to accident, and the present writer's contention is that this is the correct explanation of nearly all such fatalities. Certainly the desire or intention to commit *felo de se* never exists in the animal, as it does not possess faculty, quality or power by which such an act may be contemplated.

While the cases cited prove nothing, they are offered in substantiation of the belief that fatalities in the animal kingdom are *accidental* and not *intentional*.

C. C. MAPES.

Louisville, Ky.

PHILADELPHIA LETTER.

SANITARIUM FOR CONSUMPTIVES.—The overcrowded condition of the almshouse in Philadelphia has often been mentioned in these columns. Attention is now being directed toward the care of cases of tuberculosis in this State by the Pennsylvania Society for the Prevention of Tuberculosis and in their annual report, which has been recently submitted, strong arguments are presented showing why a State sanitarium should be of great benefit to not only these people, but also to the community at large.

A location has been found in Luzerne county, which has been offered as a site for the building.

The board of State Charities recommended an appropriation of $30,000, provided a like amount should be raised by private subscription, but it was killed in the Legislative committee rooms.

It was thought that a city hospital for the care of tuberculous cases would also greatly prevent the spread of that disease.

STATUE TO BE ERECTED TO DR. PEPPER.—A large life-size bronze statue of Doctor Pepper is to be erected to his memory by the Department of Archaeology and Paleontology of the University of Pennsylvania.

The work will be executed by Bitter, of New York, and will represent him in a characteristically pensive attitude when presiding over deliberations of that scientific body. The statue will rest upon a solid granite foundation carved and decorated in bronze by Bitter.

The memorial will be erected upon the grounds of the Philadelphia Commercial Museum.

All the societies of which he was a member have passed fitting tributes to the man who was held in such high esteem by all classes of people in this city.

A CASE OF BROKEN NECK WHO WAS ABLE TO WALK.—It is stated that an employee of Cramp's ship yard, of Philadelphia, recently fell from a scaffold, striking on his head and shoulders. He subsequently got up and walked around the factory for some time. Feeling slight pain he was allowed to go home. On crossing the river and walking some distance in Camden he suddenly became dizzy, followed by unconsciousness, and death quickly followed.

It was subsequently discovered that his death was due to a fractured vertebrae.

THE SCHUYLKILL VALLEY WATER COMPANY WILL NOT DOWN.—It was hoped that after the Select Council of this city had passed the loan bill, and after the bribers had been exposed and otherwise restrained, that Philadelphia would get the relief from the foul and polluted Schuylkill River water. To show what a clutch a greedy corporation has upon councilmen, it is again rumored that these men will come forward again at the proper time with another bill slightly modified from the old bill, but of a similar import. It is thought that this new measure will be presented to councils at an early date, and to combat such a move the Municipal League has appointed a committee consisting of several persons who will be instructed to keep up the fight against this hydra-headed monster, in order that the people of this city may drink pure filtered water free from the bacillus of typhoid fever which claims so many victims in Philadelphia.

AFRAID OF EPIDEMIC DISEASES.—Owing to the fact that there are now several hundred soldiers being treated in the Philadelphia hospitals, and that others are to be brought to the city at an early date, the Board of Health has been on the alert for some time endeavoring to prevent the entrance of yellow fever and other infectious diseases. A resolution was recently passed by the board in accordance with this precaution, asking the hospital managers to thoroughly disinfect the clothing of patients upon entrance of the latter.

Owing to the widespread epidemic of typhoid fever in the city last year, and the continued high rate of deaths from this disease, it has been thought that an incorrect opinion might exist in other cities that there still existed an epidemic of typhoid here, and to prevent this misconception the Health Officer, Dr. Lee, thought it best in reporting cases and deaths to instruct physicians to designate deaths among the army troops by the word "soldier," which it was thought would convey the proper impression.

CORRECTION OF HOSPITAL EVIL IN PHILADELPHIA.—It is stated that members of the Medico Legal Society of this city have become considerably worked up over the correction of the hospital evil which has become so flagrant. In order to keep the subject thoroughly before the profession, this society at a meeting held some time ago appointed a proper committee to look after matters at home and also to be very active at the time of meeting of the State Legislature. It is earnestly hoped that relief may be obtained through the enactment of proper laws regarding this subject.

A bill has been proposed similar to the one which received recently so much support in the State of New York. The chief provision of the bill is to make all the dispensaries of the city chartered institutions and so bring them under the supervision of the Board of Charities and Corrections. Another committee was appointed by the members of the College of Physicians some time ago to look after the matter and possibly through co-operation of all some relief may be finally obtained.

SPIDER LIVING IN THE HUMAN EAR.—A few days ago Mrs. Sarah Louva, a woman 70 years of age, living in Philadelphia, began to be troubled with distressing noises in ears. She subsequently consulted physicians connected with St. Mary's Hospital in regard to the trouble, and on examination a living spider was found and successfully removed from the ear.

DEATH FROM CHLOROFORM ANAESTHESIA.—Catherine Monragne, age 36, died while under the effects of chloroform administered at the Polyclinic Hospital, Philadelphia, the coroner's jury finding a verdict to that effect. An operation was to have been performed upon the patient.

FLOATING QUARANTINE STATION BUILT IN PHILADELPHIA.—A very unique craft, called the "Protector," has been recently built by the Government at Philadelphia, and will be used in preventing the introduction of yellow fever in the cities adjacent to Philadelphia. The vessel is built entirely of steel, 150 feet long, and over 20 foot beam, without propelling machinery. It is provided with a complete outfit for disinfecting all material which might be brought home from Cuba or other ports which suffer from yellow fever. Several officers from the Marine Hospital Service, including supervising Surgeon General Wyman, were recently here and looked at the equipments. The vessel will be taken to Fort Pond near Montauk Point, and will be under the direct care of Dr. Kinyoun, bacteriologist of the Marine Hospital service.

The vessel complete cost in the neighborhood of $50,000.

PTOMAINE POISONING FROM EATING HAM.—Eight persons living in Philadelphia were recently poisoned by eating boiled ham which they purchased at a neighboring grocery store. In one family two members were affected, and in the other three out of four who had partaken of it suffered.

In both instances the symptoms came on about four hours after the meal, the onset being marked by intense abdominal pains and excessive nausea, and vomiting in one case so severe as to cause hemorrhage. No deaths have so far occurred, but one patient is said to be in a critical condition.

SALICYLIC ACID IN MILK.—Dr. Henry Leffman, a prominent chemist of this city, recently stated that in his opinion many diseases of infants which occur during the summer months in Philadelphia may be induced by the use of milk and artificial foods which contain salicylic acid. He stated that the drug had an enormous and increasing sale and that several forms are being put upon the market.

Speaking of the artificial form used by brewers in the preparation of bottled beer, he thought it poisonous and that its sale should be prohibited by law.

In Trenton, N. J., recently salicylic acid in milk caused the death of several children.

EXPERT TESTIMONY IN A MURDER TRIAL BY PHILADELPHIA DOCTORS.—Readers of the TIMES are doubtless somewhat familiar with the killing of banker Landis, by Wenback, which happened in Lancaster, Pa., in April last. The defense have introduced prominent medical expert testimony to prove that the prisoner is insane, while on the other hand the prosecution have introduced contradictory evidence.

From a medico-legal point of view the case is very interesting. To state the case briefly Winback, a tenant of Landis, a banker of Lancaster, became indebted to the other for rent, and on refusal to pay and defied the entrance of all officers of the law by securely barricading the door. The officers and others remonstrated against his action for a long time, but parleying seemed of no avail; he defied any one to enter the house. Finally Landis came upon the scene and after a few words the prisoner allowed him to enter the building and to go to the second story, where Winback had retired. The two had only talked for a few moments when the prisoner fired upon Landis with a shotgun, killing him instantly.

Dr. Charles K. Mills, of the University of Pennslyvania, was called into the case and made examinations of the patient on May 18, and again on July 11, and from his observations he believes the prisoner was insane and of unsound mind at the time of the shooting.

He spoke of the wild delusions the patient had, and particularly of the delusion that the patient had discovered perpetual motion, and that he was afraid the secret might be allowed to escape while he was talking to witness. On cross examination witness said his opinion was not changed by the fact that the prisoner was negotiating with Mr. Landis just before he shot him. Dr. Theodore Diller, of Pittsburg, and Dr. J. E. Gerhart, of the State Hospital for the Insane, concurred on the statement of Dr. Mills.

The prosecution then introduced Dr. John R. Chapin, of Philadelphia, who said he was a graduate of the Jefferson Medical College, and had made a specialty of mental diseases for 40 years, and had extensive work in insane asylums.

Witness stated that in his opinion testimony of defense was wholly irreconcilable, and thought the prisoner could not have done what it is alleged he did do if he was suffering from delusional insanity. Had he been suffering with delusional insanity his condition would have grown worse and worse, and would have been apparent continuously and without intermission, so that they would have been noticed by the surrounding community. Witness inferred from the fact that there was no change in the manner of the conduct of prisoner's business was evidence that the man was sane. E. A. W.

MESSRS. EDITORS:

It is wholly legitimate for a Christian physician to express thought and feeling in "rhythmical form." My sympathies are on his poetic side, if he will but be patient with his impulses and allow himself time to mature his exression and rhyme, his measure and congruity.

The "next day" is too soon to correct and perfect a poem except by poets of cultivated poise—and *they* do not trust to the flame of inspiration for finish. Our profession should always demonstrate evidence of cultivated equipment, even in public prayer. I recognize enough beauty in "A Physician's Prayer" to induce me to attempt *some* revision for improvement and yet preserving its flow of spiritual thought; but leave some for the author to mend.

Very truly yours, GEO. B. H. SWAYZE.

PHILADELPHIA, June, 1808.

A PHYSICIAN'S PRAYER.

BY "ANNO."

A contrite heart, a humble mind,
I bring, O Lord, to Thee,
Renouncing sin of every kind
In all sincerity.

Lord, I would Thy commandments keep
No laws of Thine deny;
Help me to climb the craggy steep
Where truth and duty lie.

When trials and vexations force
Unholy thoughts in me,
O may I not forget the source
Of grace and charity

I would *but* ask for "daily bread,"
Not profit, place or fame,
But will to work, and wait, instead,
The riches of Thy Name.

Give me, I pray, the gift to heal
And help the woes I see;
Wisdom to serve the common weal
And all for love of Thee.

Thy love, Thy truth, Thy excellence
Give Thou, O Lord, my meed
Thy bountiful beneficence
According to my need.

Thy gracious help to me impart
To walk in wisdom's way,
And daily light to do my part
And guide me day by day.

To precepts of the wise and strong
Do Thou incline my heart;
Give courage to *resist* the wrong.
And strength to serve the right.

And when *at death I come* to Thee,
No evil *need* I fear;
For love divine shall enfold me
In Thy heavenly sphere.

TRANSLATIONS, GLEANINGS, Etc.

THE ALBUMINURIAS OF THE PERIOD OF DEVELOPMENT—PUBERTY.*

BY DR. SPRINGER, OF PARIS, FRANCE.

During puberty all the organs undergo an increase in their function; some, as the stomach and the intestines, in order to prepare the material to build up the growing body, others as the heart and blood-vessels, to distribute the nutritive material. The kidneys also have an extra amount of work thrown on them, and though under normal conditions this does not give rise to any disturbance, yet whenever preceding lesions or hereditary defects are present there may be a predisposition to pathological alterations which manifest themselves with albuminuria. Guided by clinical facts we may set forth different varieties of renal alterations peculiar to puberty which will require special treatment for each one.

1. The Albuminuria of Newborn is very frequent and is due to renal infarcts of uric acid, incomplete development of the layer of epithelium covering the glomeruli or to a venous stasis common to all the organs as well as the kidneys. There is no special treatment required.

2. Hereditary Albuminuria.—It is a fact of clinical value that the children of parents with Bright's disease easily become albuminuric, in short, that they inherit a special vulnerability of the renal epithelium. In such children one should therefore exercise great caution in the treatment of acute diseases and particularly of scarlatina. One should advise a vegetable diet and an avoidance of alcoholic beverages, which might later in life cause a renal localization of arterio-sclerosis.

3. Toxic Albuminuria.—Numerous observations have been made of children of older age who were albuminuric, pale, anaemic and weakly who recovered after changing their surroundings. Here probably a slight though a continual poisoning by lead takes place, traces of which metal are found in many foods and beverages, especially in cities where the water is frequently for a long time in lead lined pipes and reservoirs. Children thus poisoned easily re-

* Translated by F. H. Pritchard, M D., Monroeville, Ohio, from "La Settimana Medica." No. 27, 1898.

cover, as their renal epithelia are but little altered. It is sufficient that they change their residence.

4. Cyclic Albuminuria in Children of Arthritic Parents.—Teissier has described a form of diurnal albuminuria which affects children of eight to sixteen years of gouty or arthritic parents and which will involve occasionally five or six persons out of one family. It is preceded by a dark urine, followed by azoturia and associated with an increase of urinary toxicity and a temporary lowering of arterial pressure. This form is due, according to the writer, to the greater work which is thrown upon the kidney by the development of puberty and at this time the child of gouty parents reveals the hereditary blot which is expressed as disassimilation of toxic products, on which is dependent the urinary toxicity, the azoturia and the uraturia. This state requires a particular dietetic management. Milk diet with rest usually causes the albuminuria to disappear. But it should not be forgotten that such an organism is not only to be maintained in a stable condition but the demands of growth must also be filled. Therefore one should also prescribe eggs, white and gelatinous meats, bacon(?), lamb, and mutton. Ripe as well as green vegetables should end the meal. Milk, water, and decoctions of cereals are advisable as beverages.

5. Pretubercular Albuminuria.—This variety is usually observed at the end of puberty and it is generally intermittent and in the morning. It is analogous to the pseudo-chlorosis of tuberculosis; it depends on the irritating action of tuberculin on the kidneys. Treatment consists in overalimentation and tonic measures.

6. Albuminuria from Arterial Aplasia.—Lancereaux denominates thus those cases with abnormal narrowness of the arteries. It is observed in those with the stigmata of infantilism, defects of development of the genital organs or of the hairy covering. The heart is usually hypertrophic; often one will hear a gallop-rhythm. These patients are pallid and oedematous. The disease is incurable; possibly treatment with the iodides and milk diet might be able to retard its course, which habitually terminates in death from uraemia towards the fifteenth or sixteenth year.

7. Albuminuria of Puberty in Chlorotics.—These cases are also described under the term chloro-brightism. In all probability they are cases of special modifications of auto-intoxication, and Charrin's theory, who regards chlorosis as a sort of auto-intoxication from defective internal secretion of the utero-ovarian apparatus, would sustain this view. It might be added that the rapid development which has been noted to follow febrile diseases not infrequently brings out latent hereditary defects and produces chloro-brightism. Treatment should be directed towards two ends, the chlorosis itself and the renal disturbance which is the cause of the albuminuria.

8. Albuminuria in Growing Fevers.—Under the name, fevers of growth—fièvres de croissance—certain affections have been classed which are quite different in their nature, yet difficult to classify, or to recognize on account of the indefinite symptoms, but they have in common the rise of temperature and the pains in the tibio-femoral epiphysis. Albuminuria is often observed in these forms and sometimes it may be so extreme as to render the outlook more gloomy. Balneo-therapeutics are of great advantage in this condition.

9. Albuminuria in the Fevers of Overexertion.—This appears during puberty in consequence of overexertion as from bicycling, running, rowing, etc. The urinary toxicity is increased. The pathogenesis is quite simple. The augmentation of cellular activity necessary for growth on the one hand and the over-exertion on the other, throw into the blood a quantity of toxic products, which is much above the normal and which the kidneys as depurative organs are not competent to eliminate; consequently the albuminuria. Rest and milk diet are the therapeutic base of this form.

10. Phosphaturic Albuminuria.—Arthritism is the predisposing cause of this affection, of which puberty may be the determining cause. According to Robin it is typically functional at its beginning, but if it go on for some time, it may bring about organic lesions, *particularly of the kidneys.* Phosphaturia is a frequent symptom of disturbances accompanying puberty. It accompanies rhachitis, dilatation of the stomach, and chorea; it may be observed in eristhetic children, with night terrors and who are excitable and whimsical. Treatment should be rest and the administration of foods rich in phosphates.

11. Albuminuria of Late Hereditary Syphilis.—Albuminuria may be observed in hereditary syphilitics immediately after birth, but more often it is seen in individuals who develop the hereditary taint late. It then appears during development. The diagnosis is easy. Antisyphilitic treatment should be instituted, continuing it for a *very long time.*

12. Albuminuria of Amyloid Degeneration.—This is most often noticed during the period of development and it stands in relation with the tubercular localizations of the primary disease which usually affect the bones. Hereditary syphilis may also be at the bottom of the degeneration. The albuminuria is at first slight and transitory; then later it increases and remains permanent. The quantity may rise to 15 or 20 gms. of albumen daily. The spleen and the liver are hypertrophic and a persistent diarrhœa will lead one on to a diagnosis. A cure is obtained with greater frequency in children than in adults. The iodide of potash seems to have given good results. Bartels recommends red meats and wine in spite of the albuminuria. The iron preparations, inhalations of oxygen, salt-water baths, massage and frictions of the skin are to be advised.

13. Albuminuria in Children with Adenoid Vegetations.—Adenoid vegetations in the nasal fossae often cause an arrest of development and albuminuria. The reason is easily understood. The vegetations obstruct more or less the nasal cavities, impede respiration, lead to a lesser assimilation of oxygen, which is one of the most active agents in development. On the other part the vegetations catch all the micro-organisms which pass with the inhaled air into the nose and they develop marvelously well in these lymphatic tumors, throwing their toxines continuously into the circulation. Hence the albuminuria, which is really dependent upon a renal elimination of toxines. Antisepsis of the nose and pharynx, removal of the vegetations, general treatment directed towards the lymphatic constitution constitute the rational measures.

14. Albuminuria of Development in Dyspeptics.—This condition is brought about by abnormal modifications of the albuminoids in consequence of a disturbance of the gastro-intestinal functions with which is always associated a disturbance of the hepatic functions. Dyspepsia is the most frequent affection of puberty. It many times sets in insidiously. It should be treated with care. The appetite is capricious, the tongue coated, the breath fetid and the stomach distended. The liver is usually increased in size. An appropriate dietetic cure, by ameliorating the dyspeptic state, often brings about a disappearance of the albuminuria.

15. Thyroid Albuminuria.—It is a recognized fact to-day that there is an evident relation between the thyroid gland, the epiphyseal cartilages and the kidneys. A large number of the disturbances of puberty depend upon a sclerous thyroiditis which may be accompanied with albuminuria. Nephritic lesions have been noted after thyroidectomy. The albuminuria of thyroid dependence may be from two causes: either to auto-intoxication due to hypo-thyroidism or to autoxi-infectious alteration, which together with the thyroid, may have affected the kidney. Again, it must not be forgotten that after administration of thyroid extract albuminuria has been detected. This is doubtless due to these extracts containing susbtances which irritate the kidneys; therefore, one should administer only fresh glands to children.

16. Residual, Partial and Cicatricial Albuminuria.—These are the indications of a nearly cured nephritis after which several glomeruli or lobuli have remained diseased, while the rest of the organ has regained the normal state. Such are noticed after nephritis with imperfect regeneration of the epithelia which are unable to retain the albumen in the blood. These albuminurias are very slight and do not threaten the life of the child any more than a cicatrix on the skin. Children may remain albuminuric after roseola, varicella, influenza, a febrile gastritis, a tonsilitis and, above all, after scarlatina, which sometimes is clinically only demonstrable by albuminuria.

In general, these albuminurias disappear rapidly under proper treatment. It appears that young anatomical elements and tissues possess a peculiar attraction for toxic substances capable of injuring them; on the other hand, they eliminate better than older elements. This explains why children are more easily affected than adults and recover more easily. This rule applies to the kidneys as well as to other organs. *The prognosis becomes the more serious the greater the distance from childhood.* The prac-

tical consequences of this consists in the accurate surveillance of the urine of children, for it the albuminuria go on unobserved and neglected it may become the prelude *to a definite lesion*. On the contrary, if discovered in time, the greater is the probability of a cure, for puberty is an age in which the vital force and reparative energy are at their height—"the child outgrows its disease."

From an analytical study of albuminuria in children and youths it may be deducted that puberty of itself is *not* a cause of albuminuria, therefore, the term albuminurias of puberty should be dropped. It is indispensable for successful treatment to detect the true cause of the albuminuria. Puberty of itself may be of capital importance, though it should be placed in the second rank in the etiology of albuminurias.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

Hot Baths in the Treatment of Cerebro-Spinal Meningitis and Obstetrical Cases.—Wolisch (*Therap. Monatsh.*, 1896, X, 254; *Pediatrics*) reports seven cases of epidemic cerebro-spinal meningitis in children from five to ten years of age, in which he employed hot baths, as recommended by Autrecht. In five cases recovery was obtained, and two died: one of these died within 48 hours, the diseases being of the foudroyante variety (meningitis cerebro-spinalis epidemica siderans); the other died late in the course of the disease, and in this case the bath treatment was only used during the first two weeks, after that no kind of treatment was possible. The favorable influence of the baths on the heart and nervous system was, however, well marked, even in this case. The baths were administered in a somewhat different manner from Aufrecht's method. The patient was put into a bath of the temperature of 26 to 70 degrees R., and gradually hot water was added until the temperature of the water reached 32 degrees R. During the bath, the ice bag, or Leiter's coil, was applied to the head. The transportation from the bed to the bath should be conducted most carefully and as quickly as possible. If a great deal of pain is present in the spine, the patient must be lifted out of the bed by means of the bed cloth on which he lies, and, with it, lowered into the bath. The head should not be touched during transportation. After the bath, the patient is wrapped in a woolen blanket and has a light cover thrown over him; no drying or rubbing of the body is to be attempted. In this envelopment the patient is to remain an hour, when he is to be removed. The time of day for the bath is unimportant, but the very early morning hours or late evening hours should not be selected.

Beside the bath it is necessary to be provided with good cooling apparatus for the head, neck and spine. The diet should consist of nourishing meat preparations, even when diarrhea comes on. The author also ordered his patients wine and cognac (in milk), also beer, as much as they would take, and came to the conclusion that alcohol maintains its place also in this disease as a tonic and hypnotic of the first rank. It is certain that the hot bath, even in the presence of fever, does not raise the temperature of the body, but on the contrary diminishes it. In not a single case did he observe any dangerous influence of the bath on the heart's action. Lastly, he would recommend the use of the hot bath even in cases of cerebro-spinal meningitis where no other benefit was to be gained than the pain-relieving and quieting results which follow.

Patrick W. Hislop, in a paper read before the N. Z. branch of the British Medical Association (*Australas. Med. Gazette*), reports that he was called one evening to attend a primipara, aged 40. "She had been in labor for 30 hours, with more or less severe pains. I found her in bed, having very severe bearing down pains, both in the back and in front. I was told that the waters had all drained away in the morning, and that she had been having very severe pains for the last three hours. On vaginal examination I found the head presenting, and the vagina very small. The cervix was hard and rigid, and the os uteri completely closed, so that I was unable to pass a sound into the canal. I ordered warm douches, and then gave chloroform freely, for five hours, frequently pushing it to the full surgical limits, but without effect, the pains becoming more severe and more frequent. The whole uterus was forced down with each pain, and no dilation of the canal taking place, the patient rapidly showed signs of exhaustion. I then determined to incise the cervix, but before doing so I thought that I would try the effect of placing the patient in a hot bath. This was done, the water being kept as hot as the patient could bear it. She was kept in the bath for 15 minutes, during which time, and for half an hour afterwards, the pains ceased. She was put into bed and well covered over. The skin acted very freely. On making a vaginal examination, I was delighted to find that I could easily pass two fingers into the uterus, and gradually dilate it. Further dilatation was slowly but easily carried out by means of Barnes' bags, and the child was delivered by forceps. I had a little difficulty with the perineum, which was extremely rigid, although it had been treated with hot fomentations for two hours. There was a slight rupture requiring two stitches, and healing in a week. The child was weakly, and died the next day. The woman was extremely exhausted, but made an excellent recovery."

W. M. Storrar, in an article on "The Hygiene of the Lying-in Room" (*Mthly. Hom. Review*), says: "It has long been a dictum of mine that no woman's toilet equipment is complete without a deep sitz bath.

"Nothing is more generally convenient for ablutionary purposes, and nothing more comforting and even remedial in many of the various ailments, not only of menstrual life but also of pregnancy. A hot or warm Sitz bath can seldom do any harm, if not continued over ten minutes, and most often it works a great deal of good."

Usually, the writer treats his lying-in cases as follows:

"Supposing the labor to be a normal one, the patient, as soon as everything about her is clean and tidy, is lifted gently into a sweet, clean bed. She is then enjoined to rest, and the nurse performs the usual attentions.

"After about the first 24 hours I direct the patient to get up every morning and evening for about 15 minutes, never longer, and sit in a hot 90-95 degree Sitz bath, carbolized if need be, and be sponged down while in it and given a comfortable wash. If necessary, but practically it is seldom required, the vaginal douche may be used just before coming out of the bath. Any clots there may be generally come away while sitting in the bath. The patient puts on clean linen and binders, and gets into clean sheets—the bed having been well made while she is in the bath.

"This is done regularly night and morning (gradually reducing the temperature of the bath to about 80 degrees before coming out) for a week, when usually the patient strongly resents being kept in bed any longer. I try to keep her quiet for another week. I have followed this practice for eight or nine years, and have never had any mishap.

"The pleasure of the bath, the perfect cleanliness ensured, and, above all, the delightful restfulness which generally follows, have often been expatiated on to me by grateful patients.

"The consequence is, my patients do not come out of their lying-in chambers looking like frail, pale lilies, but usually as ruddy and hearty if not heartier than when they went to bed.

"There is only one warning note to add. I have observed that women treated in this way generally conceive again at the very first opportunity."

Treatment of Wounds by Steam.—Beyer (*Deutsch. Med. Woch.*, Feb. 24, 1898), observing the satisfactory results which follow the use of steam as a disinfectant for surgical dressings, has applied it to granulating wounds, abscesses, etc., to facilitate cicatrization, directing upon them at a distance of 50 cm. (20 in.), a jet of steam at a temperature of 53 degrees C. (127 degrees F.). The results were most favorable, and ulcerations which were resistant to treatment rapidly healed under the influence of the steam.

Warm Water to the Head.—Bathe the head with warm water when hot and feverish, the patient restless and sleepless—no matter what the lesion—then gently fan. The evaporation carries off the heat. Cold or ice water has the opposite effect. The writer (*Med. Free Press*) has seen patients whose heads had been ice-bound for days, with not a moment's rest, drop off in a few minutes into the most refreshing sleep, when the warm water with gentle fanning was substituted for the cold pack. This is especially the procedure in diseases of children.

Litholapaxy in India; a Series of 400 Operations—Dr. Richard Baker, formerly civil surgeon at Hyderabad, Scinde, has published, in the London *Lancet*, 204 additional cases of litholapaxy, making over 400 cases in his service in India. His earlier series of 200 cases was reported by him in the same journal for Oct. 1, 1896. These 404 cases furnish another example of the remarkable low mortality which attends the operation of Bigelow as it is practiced in India by British surgeons upon native patients, it being in his last series .49 per cent. The cases are tabulated and summarized as follows: Musselmans, 168; Hindoos, 36; males, 200; females, 4. Ages, under 1 year, 1; 1 to 3 years, 65; 6 to 10 years, 36; 11 to 15 years, 4; 16 to 45 years, 53; 46 to 55 years, 28; 48 to 65 years, 13; over 65 years, 6. Average duration of operation, 12 minutes, 19 seconds. Average weight of stone, 2 drams, 46 grains. Average stay in hospital, little under two days. Regarding the strikingly successful results of this operation in the hands of surgeons in India, it has been suggested that they are probably to be referred to the enormous number of cases of stone which occur in that country as compared with others, and the greater technic dexterity gained thereby by the operators, and possibly also to some exceptional aptitude on the part of the natives to withstand surgical operations. The same proportion of success has not been, and cannot be expected to be, reached elsewhere.

The Treatment of Stricture of the Urethra by Continuous Elastic Dilatation.—Dr. R. J. Wilding, of Malone, read this paper, in which he described a method of treating urethal stricture by the insertion of soft rubber catheters, two or three sizes larger than the caliber of the stricture. Their introduction was effected by stretching them over a guide until their diameter had been sufficiently reduced. After introduction the guide is withdrawn, and at once the catheter tends to resume its normal size and shape, and so makes elastic and continuous pressure on the stricture. The catheter is tied in, and its distal end closed with a plug. After an interval of 24 or 48 hours, during which the patient is not confined to bed, but is usually able to attend to his business, the catheter is removed, and a somewhat larger one is substituted. Dr. Wilding said that this treatment was applicable to the hardest tissues, and that, unlike the steel sounds, the catheters did not cause inflammation, and but rarely irritation. The usual after-treatment with steel sounds was recommended.

"Moral Evils" of Bicycling.—I have been very much interested, says Thomas S. Bullock, A.M., M.D., Louisville, Ky., on some of the recent literature on the "Evils of Bicycling." The alleged moral evils strike me as so absurd and unjust that I am moved to say a few words in defense of the lady devotees of the wheel.

C. C. Mapes, in an exhaustive article* on the subject says on page 10: "If pressure of the bicycle saddle is injurious to the male, it is doubly so to the female, and in the latter the dangers are not only physical but moral. Several cases have come to our notice where masturbation in female children has been acquired by irritation of the clitoris from bicycle riding, and a reasonable deduction would suggest that older girls are not exempt from the abnormal occurrence."

In the first place "pressure of the bicycle saddle" is *not* injurious to the *normal* male. Only those who have damaged posterior urethras from an "old gonorrhea" or probably several "old gonorrheas," and those advanced in years, with enlarged and tender prostates, are injured, and if the saddle were properly made and adjusted it would probably not occur without the trauma of a fall or collision.

As to masturbation in young female children, it must be remembered that normally the sexual organs are quiescent until puberty. It is a fact well known to medical men that very young children, I might with propriety say infants, masturbate, but it is not frequent and is distinctly pathological. The phenomenon was noticed long before the advent of the bicycle, and the cases referred to above should be carefully differentiated before being finally laid to the, I think, innocent bicycle.

Mapes† quotes Doctor William Judkins as saying: "A not uncommon experience is to have statements from the opposite sex (female) of pleasurable sensations, equal to titillation, from the use of the wheel."

Sexually the normal female is *passive*, and it is not overshooting the mark to say that the average unmarried female seldom or never has erotic ideas, unless incited thereto by the embrace of her lover, or some suggestive play or novel. Dyspareunia on the one hand and nymphomania on the other represent the extremes of the sexual gamut, and the normal female occupies a position equidistant from either end, the abnormal being encroached upon as the middle ground is left, and prolonged excursions in either direction bringing up at the pathological.

In the normal female friction by inanimate objects alone is not sufficient to produce pleasurable sexual feelings. The mind must lend a hand, as in the male, "to transform friction at the glands into pleasure at the prostate." The young woman with a pure mind, and I am glad to believe they still exist, and not in the minority, can come to no harm from bicycle riding. Those with minds filled with salacious literature and scenes, and who are accustomed to the embraces of their male friends, need not take a bicycle ride to become an easy game for an enterprising man, and will yield on the sofa as well as on the green. Titillation of the dyspareuniac, even if done with a perpetual motion machine, would fail to elicit a movement or look indicative of pleasure, and the nymphomaniac needs only to look at a pleasing male to set her afire with desire. The unfortunate husband of one of these most unfortunate beings recently told me in answer to a question "that the more she gets the more she wants." She was never free from an intense pruritus vaginae, and the meeting of a fine looking man on the street caused an almost irresistible impulse to embrace him. She confided in her husband in order that he might see if anything could be done to cure her, as she feared she might go wrong. Up to that time she had only transgressed with a club soda bottle filled with warm water.

Mapes* also quotes a Louisville gentleman with a national reputation as a writer to the effect that Iroquois Park was one of the toughest places about the city at night, and if he should give the names of the "society" girls who favored the place, it would create a panic; if a woman were to go out in a carriage or other vehicle, except a bicycle, and come home at midnight, she would not have a shred of character left; and that the bicycle was responsible for more immorality than anything ever invented.

I have no idea who the gentleman with a national reputation as a writer may be, in fact, barring the gentlemen of the press, did not know that Louisville possessed such a celebrity; but the "friends who kept him posted" did not improve their opportunities for observing "tough places at night." In far less time than it takes to wheel to the Park, they could have seen just as prominent society girls in much tougher places, and company. It is a sad fact that "society girl" and "gentlewoman" are not synonyms. The word "society" is so elastic that it embraces nearly "all sorts and conditions of women."

The American girl has always been noted for the freedom vouschated her, and justly. She can take care of herself and needs no chaperon to guard her honor. She has always gone walking or driving alone with gentlemen, returning home from Germans or parties in a coupe or carriage alone with her escort with her character unblemished. The bicycle has increased her freedom, but I for one do not believe she abuses it more than that formerly accorded her.

Ladies generally do not ride bicycles alone with gentlemen—not that it would be improper—but go usually in parties. She, however, who only lacks opportunity and titillation to surrender her virtue, has never had a firm enough hold on it to brag about. In my opinion not "an honest man" but a "virtuous woman" is the noblest work of God, for when she loves and triumphs she does so with a traitor in her camp, viz: her own heart, her desire to please and deny the loved one nothing. Yet she triumphs, and has other safeguards than lack of opportunity, whether it be her pride of birth and station, her religion, or a combination of both, or as skeptics say the fear of consequences which in many instances the knife of the surgeon has banished. She triumphs, and in my humble judgment she will continue so to do in spite of the warming up spin on the tandem, the playful dalliance on the green, and last but not least the juxtaposition of the favored one.

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* Reprint from *Medical Age*, Detroit, Mich., Nov. 10, 1897 † Loc. cit.

* Loc. cit.

MISCELLANY.

—The New York Senate has given favorable action to a bill to appropriate $161,000 to the Craig Colony for epileptics.

—The 275 medical journals in the United States are said to enjoy a combined annual circulation of over 16,000,000 copies.

—The German Empire has donated 10,000 marks to the Red Cross Society for the aid of Spanish and American soldiers.

—The *Northwestern Lancet* says the Eskimo women do not breed during the winter months and their menses cease during that time.

—The Craig colony for epileptics are erecting eleven cottages all to be occupied by women and children, which will accommodate 256 patients.

—Among the Sepoys who received the order of merit for the relief of Chitral is one who had no fewer than 51 wounds, probably a record number.

—Dr. Scott narrates a case of a girl whose first child was born of ordinary size, when the mother was twelve years old. The father was fourteen years of age.

—In Sweden and Norway a legal marriage is not allowed to be solemnized till both parties produce certificates attesting that they bear genuine vaccination-marks.

—Prof. Lupo, of Naples, puts his patients with diabetes upon an exclusive vegetable diet with no restriction as to kind, as he claims, with the most satisfactory results.

—At Ambuhimalaza, Madagascar, a native medical man has founded a hospital for his compatriots. It is the second hospital provided by private generosity among the Hovas.

—A banana diet in typhoid fever is recommended by Dr. Ussery of St. Louis. The banana, he says, is almost wholly asborbed by the stomach, easily digested and very strengthening.

—False teeth for horses, which were suggested by the president of a French humane society a few years ago, have actually been invented, and are gaining favor with owners of large stables.

—The formal opening of St. Margaret's Memorial Hospital, Pittsburg, Pa., erected through the munificence of the late John H. Shoenberger, who left $850,000 for the project, took place May 10.

—Dr. W. D. Turner records in the *Virginia Medical Semi-Monthly*, a series of experiments conducted on dogs, hens, cows, hogs, and calves, which go to show that lard is the antidote for strychnine poisoning.

—For the removal of wax in the ear Dr. Ricci of Turin has found a solution of hydrogen dioxide acts so rapidly in disintegrating the solid cerumen that in a few minutes it can easily be removed with the syringe.

—Gonorrhea Mixtures.—Oil gaultheric, 15 drops; bismuth subnit., 5 drs.; vaseline liq., 3 ounces. Mix. Inject into the urethra three times a day after urinating and retain as long as possible.—*Prof. Duguaries.*

—The idea among a certain class that the tomato will cause cancer has about as much truth in it as a great many other popular fallacies—that is, none at all. The tomato may be eaten freely without the slightest danger of cancer.

—The Mexican National Institute of Aerotherapeutics has now a record of 100 patients treated with compressed air, all very much improved, asthma, emphysema, bronchi-ectasia and chronic bronchitis.—*Chronicle Med.*, Mex., Feb. 1.

—The estate of the late Dr. Pepper is said to amount to $1,000,000 and is divided between the widow and three sons. In his will Dr. Pepper directed his body to be cremated and his brain given to the American Anthrometric Society.

—The recent appointment of Dr. Katharina Van Tussenbrock to the chair of gynecology in the University of Utrecht shows that among the Dutch at least the women are coming to the front in the position they are best qualified to fill.

—Surgical instruments, the *Hospital* says, may be completely sterilized by merely dipping them for an instant into olive oil heated to 320 degrees—356 degrees F. Syringes need only be filled twice with oil at the temperature mentioned.

—In severe forms of *diabetes* Dr. Piper of Bellaire, Ohio, finds that *gambal seed* given in five to ten grain doses three times a day acts almost as a specific. With the use of this remedy it is not necessary to cut off entirely a farinaceous diet.

—Tape Worm.—The *Medical Summary* says one drop of Croton oil dissolved in thirty drops of chloroform and one ounce of glycerine given at night, on an empty stomach, followed in the morning by a dose of castor oil, will remove tape worm.

—It is remarkable how much salt water the colon will absorb, and that quickly, almost greedily. In a primipara in collapse after labor one pint of a saline solution was injected hourly for 24 hours, all being absorbed, and the patient quickly rallied.

—According to Nottage, there is a certain variety of cold for which gelsemium is as near specific as any drug can be. The patient feels cold chills running up the back. A clear watery fluid runs from his nose. Now give the gelsemium and next morning the cold is gone.

—Dr. Archangolsky rubs a mixture of one part of chloroform to two of olive oil over the abdomen during labor and then applies a warm compress. In a very short time the contractions become more regular and effective and the pain is relieved. There are none of the usual after unpleasant effects of chloroform.

—The "witch doctor" is still a potentate among the Pennsylvania Dutch (*J. A. M. A.*). "Witch Doctor" Amend of Pittsburg, who died in 1894, earned till his death $15,000 yearly for detecting witches. In three instances his advice, given along the old witchcraft-finding lines, nearly led to murder by an infuriated mob.

—Dr. Von Roxitanski, of Gratz, who has just died, was the son of the celebrated Viennese, Prof. Roxitanski. The latter had four sons, of whom two devoted themselves to medicine, while the other two became singers. The old man used to say, when asked about their professions, "Zwei healen und zwei heilen." "Two are howlers and two are healers."

—Mr. Herbert Spencer has been credited with vegetarian principles. An enthusiastic devotee of the vegetarian school, meeting the philosopher a short time ago, asked him if he still adhered to that system of diet. "I was a vegetarian for one year," Mr. Spencer replied, "but at the end of that time I went over all that I had written during the year and consigned it *in toto* to the fire."

—The chemicals constituting the incandescent mantle of the Welsbach gas burner are principally the oxides of zirconium, lanthanum, thorium and yttrium. The mantle is made by first impregnating a woven fabric with a chemical compound containing salts of the above metals. In lighting the first time, the fibrous substance is consumed, leaving behind the fragile cone of the above oxides, which when heated to intense whiteness by the gas flame underneath, shines with great brilliancy.

—The Japanese are ruthless in their tampering with nature. If they decide that they want a bird or an animal of a certain shape or color, they set about manufacturing the article, so to speak, by the exercise of exceedingly clever ingenuity and untiring patience. Here, for example, is how the white sparrows are produced: They select a pair of grayish birds and keep them in a white cage in a white room, where they are attended by a person dressed in white. The mental effect on a series of generations of birds results in completely white birds.

ORIGINAL ARTICLES.

THE MODERN CYSTOSCOPE; ITS USE IN BLADDER, URETRAL AND KIDNEY LESIONS, WITH A PRACTICAL DEMONSTRATION OF CATHETERIZATION OF THE MALE URETER.

By B. O. Coates, M.D., Cleveland, Ohio.

It is not my intention this evening to dwell at length on the value of cystoscopic examination in vesical lesions, other than to pay a passing glance at some of the more important pathological changes, with a general outline of the use of the modern cystoscope in vesical, uretral, and kidney lesions; yet we should not overlook the commoner diseased conditions and the valuable assistance often given in diagnosis by introducing the electric light within the bladder. Since our vision, or what we are able to see, plays such an important part in the recognition of pathologic changes occurring in other parts of the body, it becomes none the less necessary, when advisable, to take an actual view of the interior of the bladder, which will aid us in recognizing the true pathologic changes which occur in the vesical mucous membrane and enable us to watch the progress of the disease and the behavior of the same under varying forms of treatment.

"Up to the date of the introduction of the electric illumination of the bladder all our knowledge of the obscure diseases of the urinary tract was obtained slowly and with difficulty, for it was acquired either by post-mortem or by operative interference."* Thus in many instances of early hematuria, with the exception of stone, the exact source of bleeding was somewhat speculative, and indeed, in many cases, quite uncertain. The cystoscope, however, has been of the greatest value in aiding us to locate, frequently to our entire satisfaction, the exact source and cause of bleeding, and to modify in a great measure the significance of the appearance of blood in the urine occurring before, during and after micturition.

A glance at the table which Mr. Fenwick has so nicely arranged will show the difficulty often encountered and the frequent inaccuracy in diagnosing, without a cystoscopic examination, the source and cause of bleeding.

Patients come to us complaining of some urinary trouble, and after a careful study of their symptoms, with a thorough examination of the urine, chemic and microscopic, how often we are left quite at sea as to the true nature and cause of their ailment; yet we are liable to overlook the fact that our clinical investigation is not complete until we have made an ocular inspection of the interior of the bladder. I consider such inspection quite as essential as the direct examination by illumination of the interior of the ear, larynx, eye, rectum, etc., in their respective lesions.

In certain conditions the diagnostic picture may be strengthened by an inspection of the lining membrane of the bladder by means of the electric light. Such conditions may be new growths, calcific incrustations, small shell-calculi left after litholaplaxy, small stones and other foreign bodies, simple ulcerations, tubercular and early malignant disease, and such obscure conditions as prolapse of the ureters and vesical mucous membrane, or a small encysted stone held in a pouch or fold of vesical mucous membrane, which almost completely covers it, thus producing symptoms which may entirely mask the true local condition, and yet after careful examination of the interior of the bladder with a steel sound, nothing may be revealed, unless by mere accident. I take the liberty of quoting one of Mr. Fenwick's cases as an example, and to illustrate the value of the cystoscope in above similar conditions:

"A.P., aet. 28, three years ago, being in perfect health and never having had any urinary disease or trouble, jumped off an omnibus while in motion and came with an unexpectedly sudden jerk upon his feet. He immediately felt a severe pain in the crutch, but by putting his finger in the perineum and pressing upwards he gained relief enough to walk home. The pain continued; his doctor sent him to a London hospital, and the surgeon under whose care he was admitted skillfully crushed a calculus weighing 368 grains. Fourteen days after the operation he began to be troubled with renal colic, and since then he has had repeated attacks. The attacks are very short in duration, and occur once a day. Pain, not apparently of a severe character, starts in the left kidney and courses along the ureter to the testicle, which is drawn up. On examining the prostate I found the greater part of the interlobar line had gone, and my finger felt as though it would punch through the thin prostatic capsule into the prostatic urethra. I could feel the posterior surface of the pubes easily, and I had no doubt that a calculus had become encysted in the prostate, and the sudden jerk he had sustained in leaping from the omnibus had wrenched it from its bed and had thrown it out into the cavity of the bladder. I could see a deep prostatic pit with the urethroscope and was confirmed in my opinion. I was, however, quite unprepared for what the cystoscopic examination demonstrated.

"In order to ascertain the condition of the left ureter, preparatory to performing nephrolithotomy, I introduced the electric cystoscope and found the entire surface of the bladder in a state of subacute cystitis. After thoroughly washing, I saw something which puzzled me greatly. Protruding and retracting from a small hole in the left side of the bladder, above the left uretral orifice, was a brown spike. I noticed it moved with respiration. It looked like the beak of the sand martin projecting from the hole leading to its nest in the sandbank or cleft. At first I felt certain it was a stone sticking in the mouth of the ureter, and this inspection explained the presence of renal colic and the absence of bladder symptoms. On protruding my finger into the rectum and examining the posterior part of the bladder, I felt, high up on the left side, a stony, hard body in a sack, and knew at once that

*E. Hurry Fenwick, F.R.C.S., "Electric Illumination of the Bladder," etc.

the spike I had been looking at was the nose of the encysted stone."

Mr. Fenwick says the curious part of the case is yet to come. "From the date of the cystoscopy and the thorough vesical irrigation the patient has been absolutely free from all symptoms of renal colic. He alleges himself to be cured. He reports himself to me every month or so, and I do not fail to examine this encysted stone. I am inclined to believe its weight had pressed upon and slightly obstructed the left uretral orifice, the narrowing being increased by the swelling of the subacute cystitis, and that washing and sandal oil, by removing the latter, had removed the partial obstruction. Any way, this encysted stone is symptomless."

I, myself, saw a patient who had symptoms of stone, and after careful, repeated sounding of the bladder, no stone could be detected, but upon introducing the electric cystoscope, a small calculus was seen to be lying imbedded behind the prostate, which was removed a few moments later without difficulty, after which all vesical symptoms subsided.

Prolapse of the uretral or vesical mucous membrane around the uretral orifice is, fortunately, not a very common condition, yet when it does occur, and especially in female children, it may even protrude through the vulva and tempt the surgeon to ligate it with lethal effect under the belief that it is a vesical growth. A beautiful specimen of such a condition is to be seen in St. Bartholomew's Hospital Museum, No. 2,367, Path. Trans., Vol. 14, page 185.

A very interesting case of the above is that of Caille's, which is described in the *Inter. Jour. Med. Sciences*, May, 1888, page 481. A prolapse of the inverted lower third of the right ureter through the urethra of the female child was discovered after a severe fit of crying. This prolapse was apparently owing to the formation of a warty or papillomatous growth, the size of a pea, in the right ureter near its vesical insertion. The protrusion was ligatured, and the child died 12 hours afterward. Extensive renal disease was discovered on post-mortem. No cystoscopic examination was made.

That the diagnostic range of the modern cystoscope is not confined to diseases of the bladder, but extends in many cases to those of the kidney with considerable exactness, is an established fact. Not only are we able with its help often to localize the seat of the trouble—"negative vesical evidence giving a positive diagnosis of renal disease"*—but also to distinguish whether there be two "working kidneys," or whether one or both be affected.

It may be said that the cystoscope fails under certain conditions. To some extent this is true, but by keeping in mind three essential points necessary for its employment, we may overcome difficulties to a great extent which would otherwise appear to obstruct its use.

1. It can rarely be passed without undue violence in patients with irregularly enlarged prostates and when the prostatic canal is very devious, as blood becomes smeared on the windows and mixed with the urine in the bladder. An ordinary enlarged prostate offers but little resistance.

2. In stricture of the urethra. This should be dilated or cut. If the meatus is too small to admit of a No. 22 French gauge sound, incise under cocain with a blunt-pointed bistoury.

3. If blood or pus is sufficient in quantity to render the urine non-transparent, this may be removed by washing out the bladder with distilled water, or better, a boracic solution, and refilling with distilled water.

4. In contracted bladders, or in those in which the capacity has been diminished by pressure from without.

5. With spasmodic contraction of the bladder, more especially in tuberculosis and other ulcerations. A 2 per cent. cocaine solution usually overcomes this.

6. In certain deformities, such an ankylosed hip, a rickety pelvis or a hyphotic spine. A little adjustment of the head is needed in these cases to obtain a good view.

Passing very sparsely over the general assistance often given by the use of this instrument in the diagnosis of cystic lesions, we find another important field for the modern cystoscope—that of catheterizing the ureters. For some time we were content to catheterize the female ureters, and that not without attendant and obvious difficulties. These have been largely removed by the modern cystoscope, and a still greater improvement has been made in the instrument of to-day, by which we are able to catheterize the male as well as the female ureters. Dr. Brenner, of Vienna, was the first to make a cystoscope for catheterizing the female ureters, which answered the purpose nicely for the time being; but we are indebted to Dr. Nitze, of Berlin, for devising an instrument by which we are able to catheterize the ureter of the male as well as the female. At about the same time, Dr. Casper produced the instrument which I shall have the pleasure of showing you this evening. Neither time nor space will permit me to enter into any detailed discussion as to the merits of the various cystoscopes which have been devised, other than to say that after some experience in the use of the different methods, I prefer to use the instrument made by Casper, of Berlin. It is simple in its construction and may be easily rendered aseptic; the curve of the catheter may be regulated at the operator's will to correspond to the line of the ureter; and a desirable feature of this instrument is its size, which is such as will permit of its use without an anesthetic, either general or local.

I need not remind you of the significance and importance of catheterizing the ureters in the male, as well as in the female, especially in some of the obscure kidney and uretral lesions. As the symptoms are sometimes so varied and the clinical features so misleading, it becomes necessary for the clinician to exhaust every resource at hand in arriving at a diagnosis.

The following cases, some of which I had the pleasure of observing while abroad, will serve to illustrate to some extent, and suggest the use of,

* Willy Meyer, M.D., "Genito-Urinary Diseases," Vol. I.

the modern cystoscope, as well as the beneficial results which may be obtained by this, I may say, comparatively simple method of catheterization.

In extreme atrophy or congenital absence of the kidney, always obscure conditions, nothing definite may be obtained from a physical examination, as by palpation, percussion, etc., to make clear the true nature of the condition, yet certain symptoms strongly suspicious of stone may exist in the side where the kidney is absent, and lead us to contemplate operative measures. I saw an extremely interesting example of the latter at St. Peter's Hospital for Stone, London, under the care of Mr. Frayer, to whom I am indebted for a history of the case. J. L. S., aged 62, a bus driver, had stricture for 13 years, which had been cut several times during this period. For years the patient had suffered from pain in the left renal region, associated with hematuria. This pain is severe and subject to severe exacerbations, when the patient describes it as shooting and throbbing, and on these occasions it radiates to the left groin and testicle. No actual sickness occurred during these attacks, but sometimes they were associated with nausea. Usually they last about an hour and a half, and occur at varied intervals, frequently twice in 24 hours. Increased frequency of micturition (two or three times an hour) accompanies the attack. For the last two years blood has been seen in the urine, varying in quantity, usually enough to color the urine uniformly, but on one or two occasions it has been in large quantities (the patient speaks of half-pints of pure blood). The urine has been frequently thick and foul, and the patient is in the habit of passing bougie and catheter morning and evening to keep his stricture dilated.

Pain.—During and after micturition in the urethra towards the root of the penis.

Stream.—Sometimes fair, usually sprinkling.

Frequency of micturition.—Day, six or seven; night, four or five.

Urine.—Alkaline; specific gravity 1,009; albumin, mucus and crystals of triple phosphates.

No cystoscopic examination was made.

From the above symptoms and clinical history, Mr. Frayer advised operation and proceeded to perform nephrolithotomy, when, much to his surprise, he found an entire absence of the left kidney. An extraordinary feature of the subsequent history of the case is that all nephritic pain subsided immediately after the operation, and the patient had no return of renal symptoms during the four months which had elapsed.

Case II.—I take some pleasure in reporting this rather extraordinary case, occurring in Professor Landau's clinic, Berlin, under the care of A. J. Mainzer: L. H., a married woman, aged 28, had several miscarriages and complained for several years of pain in the right lumbar region, which radiated to the back and down the thigh. The pain was of a nephritic character with exacerbations of severe lancinating paroxysms, usually accompanied with nausea, which occurred three of four times in twenty-four hours. She had passed blood at different times. The patient said a diagnosis of stone in the right kidney had been made by two eminent physicians who had advised operative measures. Upon investigation a history of syphilis was found, and the patient had been treated by her family physician for the same. While making a vaginal examination the ovaries and tubes were found to be normal, and the uterus was slightly enlarged, but freely movable. Nothing could be elicited by palpation or percussion, but upon deep pressure acute pain was produced. A cystoscopic examination was made and the bladder was found to be in a healthy condition. On catheterizing the left ureter nothing abnormal was discovered, but in the other an obstruction some distance from the bladder was found, and by careful manipulation the point of the catheter was made to pass the obstruction. Then the urine began to dribble away, and after the removal of a quantity of urine, the patient expressed herself as having immediate relief. It was clearly evident that an obstruction of the ureter existed, and it was thought to be a stricture and in all probability of specific origin. Subsequently the patient was treated by regularly catheterizing the offending ureter and the administration of anti-syphilitic remedies, after which all nephritic symptoms completely disappeared.

It might be inferred that symptoms, being of specific origin, would naturally disappear under proper anti-syphilitic treatment, but the method employed for immediate relief would seem to justify the use of the uretral catheter.

Case III.—I am indebted to Dr. W. B. Perry, of Baltimore, for a history of this case, which occurred in Chrobak's clinic, Vienna: F. C., aged 30, a married woman with three children, for years had complained of pain in the left lumbar region, radiating to the back and thigh, which was intensified during the monthly periods, and had suffered greatly during pregnancy with frequent micturition, tenesmus and burning of urine. She had been treated for catarrh of the bladder three different times. At the time she was seen all her urinary symptoms were increased and accompanied by a host of nervous and gastric symptoms. On vaginal examination, under an anaesthetic, her genital organs were found to be normal. A cystoscopic examination was made and the lining membrane of the bladder looked quite normal, except at the trigone, which was slightly inflamed. The openings of the ureters were normal, but the urine could only be seen flowing from one. The ureters were catheterized and catheters allowed to remain *in situ* for six hours, during which time the patient was given plenty of water to drink. At the expiration of this period the urine collected from the left kidney was found to be less than one-fourth as much as that collected from the right.

An examination of the urine from the left kidney showed an acid reaction, specific gravity of 1,028. A few epithelial cells and crystals of triple phosphates were found, but otherwise the urinary constituents were about normal. As regards the urine from the right kidney, aside from the increased quantity, nothing abnormal was found.

An exploratory incision was advised and the patient prepared for operation. The lumbar incision was made, and a very small kidney was

discovered and removed, which measured 1½ inches long by 1 inch in width. The patient made an uneventful recovery without any of the previous nephritic symptoms. A diagnosis had been previously made of atrophy of the kidney, which was verified at the operation.

From a review of what has been said, we may learn, by means of the modern cystoscope, the following:

1. The condition of the vesical mucous membrane; the source and frequently the cause of hematuria.

2. The condition of the uretral lips, and whether urine is being conveyed from both kidneys to the bladder or not. If not, we may learn which of the two is the secreting kidney, and observe the character of the jets of urine propelled from the uretral cones, whether it be clear, murky, or bloody.

3. To collect the urine from each kidney separately for further examination.

4. To satisfy ourselves as to an existing constriction or obstruction of the ureter, which would aid in guiding us as to what course we should pursue.

To decide whether one or both kidneys be affected, and to what extent each may be involved, is a question that always confronts the surgeon who contemplates operative measures. Providing no obstruction of the ureter exist whereby the catheter cannot be made to pass beyond, I know of no greater aid to, nor better method of, determining the character of the excretion, nor for estimating the quality and quantity of the excreting tissue that each individual living kidney possesses, than by using the modern cystoscope with the uretral catheter adjustment. Since cystoscopy of to-day is no longer an experiment, the surgeon who contemplates operative measures in any doubtful case of vesical or nephritic origin, before deciding what course he should pursue, would do well to exhaust the light that the modern cystoscope may throw upon the apparently dark field, often of obscurity, uncertainty and anxiety.

THE MEDICAL TREATMENT OF APPENDICITIS.

By Elmer Lee, A.M., M.D., Ph.D.,
New York, N. Y.

[The following article is a revision of the paper presented to the Section on Practice of Medicine, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898, and printed in its Journal.]

THERE are no new truths, but there may be new phases of that which is old. Progress means the development of new applications through invention and study. Onward and upward is the direction in which the scientific world moves, and no one dares forestall the possibility of discovery in medicine that awaits the higher intelligence. The bases of the unknown triumphs which will be the happy surprises for the future have their preparations in the knowledge and handiwork of the present. The tools increase in delicacy and number and become more and more adapted to the work of attaining the ideal of cratty man. Methods of using old forces for pleasure or service in the arts and the sciences have greatly changed, and the evolution is for good. The betterment is often a question for doubt by the pessimists, but judged from the standpoint of the universe, not by the little circle in which one mind operates, the roll of the years brings advantages to each succeeding generation which the preceding did not live to witness. Everything moves toward some new standard or away from an old one. Nowhere is the work of change more clearly revealed than in the duties and privileges of the practice of medicine. Education teaches every man to think for himself; the printing press now puts that thought into imperishable tablets. And what a monster tablet it would require to give a place to all that is said lately on the subject of appendicitis. For one, my belief is that every thought which is the independent opinion of the individual should be spoken, even if it be but a repetition.

Who among physicians, then, is entitled to speak with authority upon disputed questions? for it is the experience of all of us that we claim the privilege to-day of correcting the errors of yesterday. My plea is for an open mind in the consideration of medical practice. Exclusive surgery desires to assume the responsibility for the treatment of the inflamed appendix, based upon the belief that it is only surgery which possesses the magic of cure. Some physicians think that too much dependence is placed upon surgery, and that it is in many cases a dangerous intrusion without warrant. These two classes are the extremes, and it is well to understand the limitations of the question before us. It is sometimes surgical but more frequently medical, and as general practitioners it is desirable to examine the possibilities for good that are included in the medical treatment of appendicitis.

The cause of appendicitis is seldom if ever exactly determinable, but as a rule the health of a part depends upon the vigor of the general system. When the symptoms of a localized disturbance in the intestine or appendix reach a point of sufficient importance to require medical counsel, the highest welfare of the patient calls for a conservative method of treatment which will prevent as far as possible the danger of subsequent complications and surgery. A healthy body will not favor an appendicitis, while a safe and rapid return to health, if it is impaired, will either prevent visceral inflammation or be the wisest course in the cure. General measures first and localized afterward, is a broad and effective plan of action in therapeutics.

An immediate, but not the first, cause of appendicitis is a partial or complete clogging of the circulation in the vessels of the appendix. No satisfactory explanation known to the profession will cover every case. The first determinable effect is congestion, closely followed by exudation of serum and lymph into the mucous and muscular tissues of the appendix and its environment. The exudate stops both venous and lymphatic circulation, which is naturally followed by

swelling of the mucosa and other structures of the organ. Whatever particles of fecal matter happen to be within the canal of the appendix at the moment are either pressed out into the cecum, or they may be dammed off by a stricture and retained, and in consequence, undergo certain chemic changes. The material may be crystallized by chemic action and retained (the appendolith), or dissolved and reabsorbed, or discharged into the intestine if the swelling of the appendix subsides without destructive inflammation and rupture into intestine or peritoneum. With what is happening, pain is likely to be a prominent symptom at the point affected, yet in some cases pain is absent. But in any case there are enough symptoms from which to safely form a liberal and inclusive treatment of the patient, also broad enough to include the local part.

It is probable that vasomotor control of the artery of the appendix and its branches is temporarily either depressed or exalted, and that there is for this reason too much blood or not enough in the affected part, each of which conditions could be the factor of danger in suitable cases. Inflammation ensues upon congestion, destructive changes take place rapidly under the influence of an increase of heat and chemic decomposition of fluids and tissues, and at this stage the bacterial scavengers are present to help remove the retrograde products of disintegration. The microbes are regarded as incidents of disease and pathologic change, and serve a further useful purpose in that their presence in excess occasionally confirms diagnosis. They may confirm but not necessarily affirm diagnosis.

The power to create as well as to cure disease resides in the body, and never outside of it. At this stage of appendicitis it is purely medical, and if always rightly treated it could not be surgical, save in certain and rare instances. If neglected or improperly managed, secondary changes follow, such as ulceration, sloughing, necrosis and rupture, and even in these conditions spontaneous cure is possible and frequent. But it must be admitted that in such cases the safer course is to employ the assistance of surgery.

As soon as the physician suspects even that there is a possibility of appendicitis, upon first seeing his patient, the safe course is to be on the defensive, and by this is meant to treat the patient, rather than the disease, with the view of preventing that which is suspected, or if too late for that, proceed in such a manner as to actually give the best chances for a rapid recovery, and thereby provoke the least damage to the abdominal viscera.

In all acute inflammatory diseases of the intestines, experience proves that food should be withheld from the patient for one, two, three or four days. In cases where fever is a prominent symptom, the precise and life-saving course warrants the forbiddance of all food so long as the elevated temperature remains. All alimentation, either by mouth or rectum, can be but partially digested and assimilated during the active stage of inflammation. Even that amount of food which is capable of assimilation is in excess of the needs of the system at this stage of the case, and such nutriment as is not completely digested is a further increment of danger, and, together with other waste matter, form the material for retrograde chemic action and autoinfection. When food is needed a keen hunger will properly indicate it, and at such time moderate feeding is permissible, at regular and long intervals. The hours for meals should be seven, twelve and six o'clock, as nearly as practicable. Food too frequently given is a general mistake for which there is no justification. The selection of food is important. A diet of fresh vegetables and prepared sweet fruits stands highest in effectiveness, besides, it is better relished by the convalescent. Good vegetables are procurable at every season of the year and in almost every locality, and always suitable. The diet need not be exclusive, although a liquid one is occasionally advocated by some physicians as the best. Nor is it strictly important that meat be omitted; indeed, the diet could be a mixed one if actual hunger is made the guide as to when the feeding should begin. The main point is not to begin alimentation too early, not to give too much or too frequently, and with particular instructions for most thorough mastication. Casciani concludes from experimental studies that:

1. In disease or during convalescence, a diet of fresh, well prepared vegetables diminishes urinary toxicity.

2. Urinary toxicity is greater where the individual lives on a mixed diet and less where a vegetable diet is adopted.

3. A meat diet increases urinary toxicity in direct relation to the quantity consumed.

4. The degree of such toxicity is an index of the capacity for resistance against disease or the extension of visceral inflammation.

From the beginning of the treatment, six to eight ounces of fresh, pure water—administered with disciplinary regularity each half hour or each hour for the first, or first and second days of treatment, then if the case improves, let the interval be two hours—is a therapeutic resource of striking simplicity and exact scientific value. The only valid counterindication is the use of discretion in disturbing the patient should he be asleep; none other exists to my knowledge. In the selection of potable water for clinical use, distilled water gives the best results. Internal hydro-therapeutics are coming more and more to be accepted as the line of investigation upon which a sound basis of treatment is possible. Recently the University of Heidelberg voted this branch of therapy into a full professorship, thereby recognizing the importance of less and less employment of drugs.

It has been observed that a free use of pure water is an effectual laxative, obviating more drastic methods. The laxative effect is aided by dissolving small pinches of common salt in draughts of hot water, given at the regular intervals. Purgation is desirable, but when the intestine is undergoing active inflammation, harsh purgatives are seemingly useful, but actually harmful. This is owing to the irritation excited in the mucous walls of the intestines, and also to the fact that the purgation is at the expense of the constituents of the blood.

The hot saline or soapy enema will free the colon by quickly washing down the fecal contents. The small intestines need no purging, for fermentation and decomposition are generally to be looked for in the ascending and meso-colon. Such cleaning of the small intestines as may be useful will naturally follow upon the administration of hot water by the mouth, and from the effects of hydrostatic enteroclysis. It requires two to three quarts of solution to ascend the colon and reach the cecum in an adult and one-half the quantity in a child. Irrigation is best given in the knee-chest position, though it is immaterial in what position the water enters the colon, so long as the quantity introduced is sufficient to partially distend the bowel all the way up to the cecum. It may not be able to accomplish this satisfactorily in all patients, or perhaps not at the first trial. But the water can be made to go to the cecum and do its bidding as far as the opening of the appendix, if used with a little patience and perseverence. The colon, freed of its contents, is an important beginning in the management of acute appendicitis as well as in other forms of enteric inflammation. A short rectal tube four to six inches long, of large caliber, is the one now commonly used; the long tubes are no longer generally employed. Water with pressure behind it will find its way more safely and naturally without the use of a special colon tube, which in practice may buckle and get no farther than the rectum or first fold of the sigmoid flexure.

The oil treatment of appendicitis consists of the substitution of either sweet or olive oil for the plain or medicated water enemas, and to some extent oil is administered by the mouth. The results are said to be highly satisfactory, which without doubt they are, though personally, my experience is limited to a few cases.

It is possible and safe to use morphine and codein for the temporary relief of pain without impairing an inclusive diagnosis or the chances for rapid recovery, provided the more important features of the treatment are faithfully and skillfully instituted and continously maintained. Of this there can be no doubt in acute cases seen at the beginning or at least early. If the practitioner has not sufficient experience with practical hydrotherapy to feel like placing his whole confidence in it, a moderate administration of reputed internal antiseptics will do no great harm if the foregoing uses of water are not neglected. The advantages from prescribing the so-called internal and intestinal antiseptics are based upon control experiments of the laboratory and cannot stand the test of unbiased clinical practice. Dr. Turck and others have sufficiently demonstrated the truth of this fallacy of intestinal antisepsis for all time to come.

At the last German Congress of Internal Medicine, April 13, 1898, the addresses on "Intestinal Antisepsis" and "Autointoxication" proclaimed the paucity of our knowledge on this subject and the worthlessness of all antiseptics for this purpose. It was declared that they are alone kept in vogue by the advertisements of the manufacturers. Only one or two voices were raised in dissent to this timely and sweeping condemnation, which leaves only prompt evacuation of the contents of the stomach and intestines for our reliance in intestinal autointoxication. The German profession has reached this sound conclusion rather late, but still in time to correct an abuse and thereby better serve their patients in the future.

In severe cases of painful appendicitis cold water applied to the affected area of the abdomen is grateful to the patient and helpful in allaying both pain and excessive heat, consequently such applications aid in hastening restitution of the inflamed appendix. My favorite compress is a small napkin saturated with ice water, frequently renewed, with a piece of flannel laid over it as a protective against wetting the bedding. Extreme care that the comfort of the patient is not too much disturbed by leakage in the bed is most important. The ice coil and the ice bag, if not too weighty, are convenient and useful. Gentle massage of the abdominal wall contiguous to the appendix is beneficial in cases where the inflammation is not of the fulminating character. Sometimes a cold compress may be advantageously followed by one wrung out of hot water. But where there is excess of local heat with fever, the cold works better, all things considered. The hot poultices of flaxseed and other slimy material confer no important benefit upon the patient; their chief claim for usefulness depends upon an old tradition too sacred to be suspected by the unwise friends of the sick, and unfortunately the medical adviser himself even in some great centers of medical teaching indulges in this ancient but bad practice. Where a hot poultice might benefit one of these cases, 99 cases would be injured. The affected area needs no further heating, but on the contrary, the aim should be to arrest the inflammatory process by the cooling and tonic effect of cold water applications.

Tonic and stimulating aidance to the nervous system, often badly needed to arouse the bodily vigor and resistance, is assisted by brisk rubs along the spine by the hands dipped in cold water, or with a sponge cooled in ice water. The effect is very frequently a magic influence for which nothing else in therapeutics can be a substitute. The cold shower or spray would be still better if it were convenient, and the patient was disposed to submit, a thing not always to be secured, because of an unnatural fear instilled into the mind against cool water as a remedial agent. Hot water used in the same way would act satisfactorily as a substitute if the objections against the cold water could not be overcome. It is to be remembered that hot water is next in importance to cold in a therapeutic sense, and may in suitable cases be substituted for it.

Bodily bathing in sickness is to-day almost uniformly employed; it is therefore but necessary to mention it. If the fever runs high, the greater the importance of speedily lowering it by natural means, and the combined influence of internal and external usage of water in large quantities will more quickly and surely bring about a normal temperature, when safety and permanency are considered, than is possible with chemicals.

If there are those who would use the chemicals, let them not omit a full and thorough application of water therapy and its auxiliaries, such as good nursing, pure atmosphere, sunlight and sunshine freely admitted to the sick-room, together with that most urgent therapeutic measure of total abstinence from food during the first few days of the sickness.

It is ever to be kept in mind that successful medical treatment of appendicitis requires immediate and systematic and inclusive management from the first moment of assault, and in advance of plastic tissue changes. The beginning of such a plan ought to date from the first professional visit.

General massage has a place in the treatment of appendicitis, in that it supplies the physical exercise essential for the highest interests of circulation, respiration and digestion. Ample resources are possessed by a body whose vigor is conserved during acute localized inflammations to check destructive tendencies and restore order. In fatal cases it is the low and disordered state of the system that makes death imminent, and not the appendicitis, for the latter is a symptomatic expression of bodily sickness. Ulceration, sloughing and even necrosis are not necessarily fatal in a body fortified with hydro-therapeutic management.

Rupture sufficient to permit of the escape of fecal products into the peritoneum, according to Morris, would seldom happen if medical treatment from the inception was properly understood and directed. The same author and operator further candidly affirms that medical treatment would save all but a few cases from the need of surgery, if medical practice was inclusive and scientific. But if a choice is to be made between an up-to-date, skillful surgeon and an average physician, he decides that the chances of the patient would be better subserved by the former. Under the aggressive teaching of modern surgery, many physicians are apt to lose courage in the attempt to control appendicitis, and it is not strange where the sole dependence is placed upon the suppositious healing effect of purgatives, opium, poultices and so-called intestinal antiseptics and in those cases where that mistake of forced feeding at frequent intervals is permitted, together with other errors of medical management, it is quite natural that alarming symptoms should occur leading to cellular proliferation and a possible surgical crisis requiring an operation. A rupture with escape of fecal filth into the peritoneum is not a pleasant thing, but it would rarely occur, according to the experience of one of the foremost surgeons, if the physician was capable of doing his whole duty properly and at the right moment.

Large abscesses, wherever located, menace health and life, but there are conditions which make the presence of pus less dangerous than an operation would be in an unsuited condition of body. In such cases the physician and surgeon wisely co-operate, thereby justly sharing the responsibility. An abscess which is reasonably accessible in or through the abdominal wall, the same as elsewhere in the body, is easily opened and drained, but amputation of the appendix for a thickened mucosa or for almost any other reason save rupture, or where there is positive diagnostic certainty that rupture into the peritoneal cavity is imminent, frequently furnishes cases for the surgeon which still rightfully belong to the province of medicine.

Chronic cases should come under a modified plan of treatment based upon the principles herein set forth, and kept within the control of the physician till all the symptoms are long since passed. A healthy colon is the most important salutary factor in the prevention of every form of appendicitis, for a clean colon is likely to be accompanied by a healthy appendix. If there is a danger of appendicitis or if it has already occurred at some previous date, the successful way to prevent interval and other forms of appendicitis lies within the reach of such an one as happens to have a physician who is aware of the value:

First, of regularly cleansing the colon once a week, by the hydrostatic injection of two to three quarts of blood-warm water.

The second great requirement for prevention of recurrence is general bodily exercise, performed with daily punctuality.

The third is moderation in eating.

The fourth is the habitual use of a sufficiency of pure water as a drink to satisfy the requirements of a body that is more than three-fourths fluid.

The fifth includes proper clothing, and especially the substitution of linen mesh, cotton, or silk of light weight for the impervious and nonporous flannel underwear so generally worn under the mistaken supposition that it is natural covering because it was first attached to the back of an animal. When the wool was on the animal it was alive and effective, but shorn and dead it must stand on a different basis as a material for human use. Laying aside all prejudices, wool is the least desirable material for either health or comfort in undergarments, winter or summer.

There remains one point more; the experienced and really capable physician is entitled to a fee proportionately important to that which surgery expects, when the equivalent in service is rendered. Medical treatment strives to save and prolong human life, and when the result to the patient is the same, whether through the assistance of surgeon or physician, why need the fee be widely different? The fee of $500 to $5,000 may or may not be too much for an appendectomy, but if the same end is safely and satisfactorily attained by the practitioner, why should his fee be less than that of his surgical contemporary? When the emoluments for medical work, skillfully and successfully accomplished, whether by surgeon or physician, are relatively similar, there will be an incentive for closer co-operation, higher medical thought and better treatment than prevails in some places at this time. The practitioner is entitled to the full equivalent in exchange for intelligently performed services in the conservation of human life, and that equivalency should correspond to the measure of success in each case treated, with a

proper and due regard for the skill, experience and years in medical practice.

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THE NOMENCLATURE OF GASTRIC DISEASES.

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IN all branches of medicine the advance of practical knowledge or, at least, the ambition to be thought progressive, has far outstripped the linguistic attainments of the profession. There have come into quite common use words of mongrel origin, while roots and endings have been mangled and mingled by men unwilling to use plain English and unable to form correct classical derivatives. When we consider that a State superintendent of instruction has devoted much serious argument to the matter of a "Bi-headed" school management, it is not surprising that busy physicians have labored under the delusion that such prefixes as poly-, multi-, mono-, hyper-, hypo-, a-, etc., could be used indiscriminately, nor that some have twisted the tails of foreign words till the resulting terms cry out against the abuse. We may all draw a lesson from the experience of the geologist who discovered a shellfish with a square tail and, confusing quadri- and quadrati-, announced it to his profession as a four-tailed monster. But, seriously speaking, too many of us fail to realize the necessity of a stable nomenclature, and we are too prone to make way with accepted terms to give place to something that shall better represent our own latest hypothesis. The making of a new term is not properly a personal matter, any more than the making of a new coin. Someone, of course, must be the first to suggest a word, but there should be no thought of anything more than suggestion. The literary correctness of a proposed word should be vouched for by a good authority, and, by this is not meant a physician who remembers enough Greek and Latin to pick a word out of the dictionary, but some one professionally engaged in language study and, preferably, with actual experience in dictionary-making. If this rule had been observed, there would have been a salutary number of stillbirths among the newer technicalities which have crept into medical literature.

Granting that a term is correct from the literary standpoint, its welcome into the medical dictionary ought by no means to be assured. If we take from our shelves a good, standard dictionary of 20 years ago, we find enough words to express the great majority of our present thoughts, even in regard to recent discoveries; we also find that these words are non-committal as regards theories of ultimate effect and causation, and that most of them must have come into use very early in the history of medicine. On the other hand, the newer terms are too apt to be rigid exponents of a certain theory. For instance, the old word *corpuscle* can be used with qualifying adjectives to the end of time, but such new words as *lymphocyte* or *polymorphonuclear*—the latter is also objectional in form—would drop out of use if our present ideas as to haematology should suffer material change. *Eosinophiles* are, already usually demonstrated by another dye than eosin and the term is too specific, just as we should feel an irksome limitation of language if we could refer to a British soldier only as a red-coat. Many pathologists object to the use of the word *catarrh* as applied to the stomach, insisting that the lining membrane is glandular, not mucous. But there is much to say in favor of the old, general definition of mucous membrane, to apply to any cavity having direct or indirect communication with the outer world. It is noteworthy, too, that while this terminology leaves a future revision of histology unhampered, it agrees surprisingly well with the scientific and practical distinction between mesoblast and the original external and internal germinal membranes. Moreover, some of us like to adhere to the plain old terms of the medical dictionary because we fear that the next generation will know as much more than ourselves as we think we know more than our predecessors. In this event, the older non-committal terms have a fair chance for survival, but most of the newer ones are too inelastic to be stretched to a broader knowledge of pathology than we possess.

The term *hyperchlorhydria*, though very pretty and not especially objectionable from the linguistic standpoint, is already a source of confusion. To several investigators, of whom Boardman Reed may be taken as the most eloquent example, it signifies a common gastric disorder, often marked by fermentation, and corresponding to a hydrochloric acidity of anything over 5 to 10 parts in 10,000. To others, with whom the writer classes himself, the older standard of 20: 10,000 is considered normal, and hyperchlorhydria signifies a marked elevation of acidity above this. Naturally enough, hyperchlorhydria to us is a comparatively rare affection with a strong tendency to the production of ulcer and with a usually complete absence of fermentation, except in cases of ischochymia to be referred to later. So long as the nature of the test meal and the exact method of determining the acidity are stated, the difference of opinion as to physiologic standard does no harm, but our reports become confusing when, as must often be the case, the diagnosis rests on inference or the application of approximate tests, such as the writer's effervescence test. Now, whichever party may be correct in opinion as to the standard of hydrochloric acid in health, it seems best to restrict the term *hyperchlorhydria* to cases in which this is the essential element and in which the acidity is not a circumstance but a source of danger.

The terms *subacidity*, *non-acidity* and *superacidity* define themselves. Unfortunately, many men who know better continue to use the incorrect synonyms, *hypo-acidity*, *anacidity* and *hyperacidity*. Without qualification, we naturally infer these terms to apply to the essential acid of the gastric juice and under the usual conditions as to test meal and period of digestion. Properly qualified, they may also be used to apply to fermentative

acidity and to various special circumstances, and it is unwise to attempt to limit them too closely.

The terms *atony*, *hypotony* and *hypertony* are analogous. During life there can be no absolute atony, and it seems, on the whole, better to use this term for gastric conditions in analogy with its use regarding other parts than to introduce the more strictly correct but less familiar term hypotony. It is questionable whether gastric hypertony exists as an entity, though the actual peristalsis of the organ may be increased, when it is convenient to use the expression *hyperkinesis* or *supermotility*. Strychnine is used to produce a relative hypertony, and it may be that when carelessly used there may result a true though temporary and abnormal hypertony of the stomach as of extrinsic muscles.

The writer has emphasized elsewhere the practical impossibility of separating the secretory and the motor functions of the stomach. Thus, it would be convenient to have two terms indicating, respectively, a diminished and an exaggerated gastric function. Pure atony, that is, with normal secretion, is nearly or quite an abstraction. The paradox of increased secretion—meaning either bulk or active ingredients or both—with impaired motility is usually explained by the fact that the stomach is really moving vigorously, but against an obstacle. Indeed, the histologic structure of the stomach is such as to throw the burden of absolute demonstration onto those who claim to observe cases in which secretion and motility are at variance.

As regards absorption, we possess very little real knowledge. The tricks with potassium, iodid, etc., are not reliable.

Some students of gastric diseases, after having almost discarded the term *gastritis*, and having used the words secretion, motor power, function, etc., as if the analysis of gastric contents were the sole factor of scientific practice, are growing more and more skeptic as to the functional nature of the common run of dyspepsias. By the way, it seems best to use the word *dyspepsia* in its old general sense of a functional disorder of the stomach, or of any disorder considered from the functional standpoint. Some have boldly stated that the term *gastric catarrh* or *chronic gastritis* should be applied to any stomach trouble marked by diminished acidity and in which temporary abnormality, ulcer, cancer, dilatation, etc., may be excluded. While the probabilities are against the essentially functional nature of obstinate dyspepsia, the differentiation between functional disturbance and mild organic lesion is almost impossible. Gastroscopy is difficult and dangerous; the epithelium which we can get for microscopic examination is, for the most part exfoliated because of its senility; post mortem examination is usually inteferred with by self-digestion or putrefactive changes. At present, we are earnestly seeking new information, but we have at least advanced far enough not to use the term gastritis in the old off-hand way, nor to let the matter of acidity influence our nomenclature.

The writer, for some years followed the custom of limiting the word *acute*, to gastritis of toxic or corrosive origin, but this is contrary to general principles of nomenclature and the gradation of gastritis should be analogous to that employed for inflammations of other parts of the body. A number of qualifying adjectives must be prefixed to the word gastritis, to designate the exact condition or the part mainly affected. The terms *toxic*, *corrosive*, *mucous*, *glandular*, etc., are self-explanatory in the light of the newer pathology. *Mucous gastritis*, however, cannot be diagnosed entirely from the presence of mucus in the stomach contents. We must be sure that it comes from the stomach wall. We ought also to recognize a "*circulatory*" *chronic gastritis*, as a practically distinct affection, in that prognosis and treatment depend much on the ultimate cause. It is scarcely necessary to state that by this term is meant a gastric catarrh due to hepatic sclerosis, cardiac dilatation, valvular lesion, tumors of various kinds pressing on the portal vein or, rarely, the ascending vena cava, and, in general, any condition in which the return of blood from the gastric veins is impeded. Such gastritis is at first attended with the formation of much viscid mucus, later the glandular elements also suffer and there is general tendency to interstitial new growth with the strangling of the glands.

Thus chronic gastritis, especially of the circulatory kind, tends to produce what has been termed *anadenia*, or gastric atrophy, or atrophic gastritis. *Anadenia* is probably never literally applicable, a few remnants of true parenchymatous tissue remaining. Perhaps a better term, and one more in conformity with the nomenclature of similar changes in other organs, would be *interstitial gastritis* or *gastric sclerosis*. So-called gastric sclerosis is often nothing but muscular hypertrophy or malignant infiltration. "*Cirrhosis*" is not a correct term. In the liver, sclerosis is almost invariably marked by a yellowness, but the former is the essential change and there is certainly no excuse for transferring the name of the circumstance to other organs where it does not exist at all. Corresponding to anadenia and atrophy or to the term gastric sclerosis, if it be accepted, we have the clinical expression, *achylia gastrica*, which is correct and non-committal. Naturally, every sclerosis of high degree must be marked by achylia, but achylia may be functional, as in the depression of fever, Addison's disease, or of local gastric disease. From the relative severity of the different gastric affections, it follows that functional achylia is most frequent in cancer, and that it rarely occurs in the earlier stages of gastritis, though the latter logically leads to atrophy of the glands if carried to the limit. It is remarkable that, while achlorhydria has been set forth as even pathognomic of cancer, very little emphasis has been laid on the fact that failure of the ferments is really diagnostic of gastric cancer, though by no means exclusively so. In a case of Addison's disease treated by the writer, achylia was the most marked symptom; in fact the diagnosis of Addison's disease, after having been considered, was set aside for lack of confirmatory evidence, and for it, I am indebted to a physician who saw the case later, when bronzing had occurred.

An attempt has been made to use the term *gastric ulcer* in a very limited sense, but it seems best to retain the qualification of "*round*," "*peptic*" or "*rodent*," though none is quite satisfactory, and to use the word ulcer, as elsewhere, to indicate any "solution of superficial continuity of tissue." Dr. W. W. Keen, in his Cartwright lectures, refers to the "distinction which Seymour Taylor has lately made that there are two distinct forms of gastric ulcer," Dr. Taylor's article having appeared in the *Medical Press and Circular* of March 23, 1898. The writer made the same distinction in an article in the *Medical and Surgical Reporter* of Dec. 8, 1894, this article being based on a study of German statistics, mainly Stoll's, which plainly implied the same distinction. It is possible, in fact, to distinguish several forms of gastric ulcer, and even to make a differential diagnosis among them, with considerable probability, as follows: Acute peptic ulcer with haematemesis, chronic or latent ulcer, traumatic and corrosive ulcers, ulcers forming on malignant and other new growths, varicose ulcers and the so-called haemorrhagic erosions due to circulatory obstruction, temporary ulceration due to animal parasites or animals swallowed and capable of living for some days in the stomach though not of becoming entozoa.

The nomenclature of cancer requires no discussion.

By *dilatation* or *gastrectasis*—not *gastrectasia*—is usually meant a purely secondary disease, due to mechanical obstruction at the pylorus or in the duodenum. But, according to the writer's experience, the commonest gastric disease is a moderate dilatation due to essential atony. The attempt has been made to distinguish the latter kind of dilatation by the term *relaxation*, but, in the writer's opinion, the condition is too permanent to allow such a designation. Any stomach, normal or abnormal, may be contracted or relaxed, but the stomachs described as in a state of atonic dilatation are too large and too low, even when contracted to the utmost. *Gastroptosis* on cursory examination is often confused with dilatation, the differential diagnosis resting on the accurate location of the upper part of the stomach. Without really blundering in the diagnosis, the writer has been one of the worst offenders against the accurate use of the word *gastroptosis*. Literally, there is a sagging or ptosis of the greater curvature in every case of dilatation, but it is desirable to make a sharp distinction between a stomach which is enlarged and one which has *prolapsed* from its normal position. In fact, prolapse is a good synonym for ptosis. *Gastric atony*, though a functional disturbance, simulates the mild grades of dilatation and ptosis. Why do these diverse forms of stomach trouble fall naturally into the same paragraph? For the reason that in symptoms, and indeed, in their immediate effects, they possess two points in common, first, the delay of food in passing through the stomach, a factor which is not important of itself; and secondly, the almost inevitable consequence of fermentation or putrefaction which determines a state of auto-intoxication—another objectionable word. Through the writings of Einhorn we are familiar with the term *ischochymia*, as applying to gastric stagnation due to any cause, though the atonic stomach is not often thus dignified. The only objection to this term is that *ischo-* in other compounds signifies restriction in quantity rather than in position. There has been much apparent conflict as to the gastric acidity and secretory power in ischochymia, and an apparent contradiction between those who insist on the antiseptic value of hydrochloric acid and those who describe hyperchlorhydria with stagnation and fermentation of stomach contents. A logical consideration of the subject removes all apparent confusion. If the ischochymic stage is originally atonic, or has become so through exhaustion, hydrochloric acidity would be expected to fall, *pari passu*, and it almost invariably does so. If, on the other hand, the restriction of the stomach contents is due to obstruction at the pylorus, while the absolute motor power of the stomach remains good, or is even increased in the endeavor to overcome the obstacle, a normal or exaggerated amount of hydrochloric acid is to be expected. Nevertheless, the long retention of organic matter in a cavity, which is warm and moist and into which bacteria are introduced at every swallow, leads to putrefaction, for we must remember that even hyperchlorhydria signifies a very weak solution of hydrochloric acid, 1: 400 at a maximum. Naturally enough, the systemic depression of cancer almost always reduces the secretion of hydrochloric acid, while the irritation of a more or less cicatrized ulcer at the pylorus, in the absence of any considerable degree of systemic dyscrasia, is a potent factor in calling forth a stormy peristalsis and an exaggerated secretion of hydrochloric acid. The whole matter is graphically illustrated if we remember that the pyloric obstacle may be the dam of a sluggish pond or a breakwater against which the peristaltic waves vainly dash.

There are many cases in which "auto-intoxication" depends upon fermentation or putrefaction in the gastroenteric tract, in the absence of discoverable or probable organic lesion and without the obligative presence of any specific bacterium. Hence, we are obliged to retain the old term, *fermentation*, which has been used to shield so much ignorance.

Nine-tenths of gastric diseases may be included under the terms dilatation, gastritis, cancer and the rarer tumors, and the two opposite conditions, of secretory and motor excess or deficiency. It is in regard to the remaining tenth that most of the sins of nomenclature are committed. Patients demand a name for everything and, by all means, let them have it. Dyspepsia is soul-satisfying and no one can refute such a "diagnosis." But the tendency of the medical profession to crystallize every new concept into a technical term is to be deprecated. A board of aldermen lately rebuked an enterprising manufacturer who wished the name of a street changed to his own, by advising him to go the cemetery if he wished to erect a family monument. The same criticism should apply to personal nomenclature in medicine. But it is better to designate a symptom-complex by a proper name than by an improper

agglomeration of Greek and Latin, for instance, *gastro-succorrhoea*. Another objectionable result of the tendency to use single technical expressions instead of brief descriptions of rare conditions, is that we ignore complicating conditions which may be important or even fundamental. We may differentiate gastric diseases, but we cannot separate them. The cancers will continue to ulcerate, the dilatations will often—and, in the higher grades, usually—depend on cancer or ulcer; any of these conditions can hardly fail to be complicated with catarrh; we cannnot even discriminate sharply between functional and organic diseases. For the every-day troubles that occur and recur, convenience demands the use of brief, technical names; let them be as brief, as correct, and as few as possible. For the rarer troubles let us use plain English—including Latin derivatives that are in common use—stating the essential conditions present, rather than attempt to enlarge a technical vocabulary that is already cumbersome. The word-mint has been running overtime lately, and, unfortunately, the words coined do not always possess the intrinsic value which they should, while there are glaring defects in their artistic execution.

OPERATIVE PROCEDURE FOR BOWEL OBSTRUCTION WITH CASE, AND RECOVERY.

By A. N. Denton, M.D., Austin, Texas.

ONE of the most profoundly interesting subjects to the physician and surgeon is bowel obstruction. The causes of obstruction are quite varied, and, except by invasion of the peritoneal cavity, are often difficult or impossible to discover. Nor is it always easy to determine the seat of the lesion. Pain, it is true, is apt to arise at the seat of the obstruction, or radiate from it, but the pain is often vague, and the tenderness difficult or impossible to locate, especially if there is much distention. In the absence of great distention, palpation may detect a tumor, and thus approximately locate the seat of obstruction. If vomiting sets in early, and is frequent and persistent, and is not markedly stercoraceous, and distention is moderate, we may suspect that the obstruction is either in the duodenum or the jejunum. Early vomiting, which becomes truly stercoraceous, accompanied with distention in the umbilical region, points to obstruction in the lower ileum, or near the caecum. Great and uniform distention, extending to the flanks, accompanied with tenesmus, would indicate obstruction in the descending colon or rectum. In the adult, the injection of water may, in some cases, enable the surgeon to locate approximately the seat of the obstruction. If six quarts of water are injected and retained, the obstruction is above the colon. If less than four quarts can be retained, the obstruction is probably below the ileo-caecal valve.

The passage of sounds, or rectal tubes, or the attempt to pass them beyond the sigmoid flexture, is difficult, and I believe useless, and frequently injurious. The determination of bowel obstruction is nearly always difficult, and perhaps in a great majority of cases impossible, except by invasion of the peritoneal cavity. In children, intussusception is probably the most frequent cause of obstruction. In such cases, the obstruction is rarely above the ileo-caecal valve. There is usually great tenesmus, and the passage of bloody mucus. The abdomen is usually soft, and if there is tenderness, it is generally in the right iliac fossa. When the obstruction is due to fibrous bands or internal hernia, there is usually a record of traumatism, or sudden and violent effort followed by symptoms of peritonitis, or pelvic pain. The attack is usually, but not always, sudden and violent. The vomiting begins early and is soon stercoraceous. Pain and tenderness are intense, and distention is frequently great. In such cases the obstruction becomes complete, so that not even gas can be made to pass the seat of obstruction.

In cases of obstruction by a foreign body, there is usually a history of such a body having been swallowed. Moreover, the obstructing body may often be located by palpation. Strangulation and obstruction may also be caused by gall stones, by a knuckle of the ileum passing through an aperature in the omentum, by a band formed in part by a persistent vitelline duct, or, lastly, by faecal impaction, which is one of the commonest causes of the malady, and is generally due to partial or complete paralysis of the bowel, with diminution or abolition of peristalsis. In such cases the bowel, at the seat of obstruction, is often pervious to the fluid contents, whilst the solids become firmly impacted.

Obstruction from this cause is perhaps more amenable to treatment without operative procedure than obstruction from other causes. Such obstructions are usually in the colon or rectum, and can generally be dissolved and washed away by large and repeated injections of water, or, what is frequently more effective, water and glycerine.

Now, what are the remedies at our command for these various forms of bowel obstruction, which may be tried prior to operative procedure? Briefly, they are: First, laxatives and purgatives, which are first resorted to by all men; second, injections of various substances, but principally of water; third, insufflation of hydrogen gas. The latter may be ignored as one of the remedies in general private practice, as it is rarely if ever attainable.

One of the most interesting questions connected with bowel obstruction is, as to the proper time for operative interference. In many cases, it is difficult for the surgeon to determine as to whether or not the occlusion is complete. If the obstruction is above the colon, the surgeon may continue for many days to wash away faecal matter from the colon by injections of warm water, and thus be led to suppose that the entire alimentary canal is pervious, when complete occlusion exists at some point of the ileum. In this way valuable time may be lost, and the golden opportunity for successful operative procedure may be past. In many other cases the surgeon is deterred from operating by objections on the

part of the patient, or his friends, until it is too late, and the operation is done after such pathological changes have taken place about the seat of obstruction as to preclude the possibility of recovery.

No specific directions can properly be given as to the time for operative interference. However, as a general rule, it should be done as soon as the surgeon becomes satisfied from the faithful and judicious employment of the remedies above alluded to, that the obstruction is complete and cannot by such methods be removed.

In conclusion, I desire to briefly relate the history of a case which I think teaches the important lesson that there may be grounds for hope in operative procedure in some cases that are apparently hopeless.

The case is in some respects unique, and so far as I am informed, without precedent. I was called on March 8, 1896, to see Laura P., aged 13 years, who had been ill about one week. She had light fevers with constipated bowels from the beginning of her illness, and for the last four days had been unable to retain any food in the stomach, the vomiting occurring about every six hours, but the ejected matter this time was not stercoraceous. There was at this time considerable distention and hardness over the abdomen, but no marked tenderness, either general or local. The pain at times was intense, but could not be referred to any particular locality. The evening temperature was about 101 degrees, but in the morning it was normal. The circulation was fairly good, although the pulse ranged from 95 to 120 per minute. She had had no movement from the bowels within the past four days, although purgatives had been administered by the mother. Believing from the present condition and history of the case that I had to deal with a case of bowel obstruction, I at once ordered tablespoonful doses of castor oil every three hours, and proceeded to flush the colon with warm water.

Considerable quantities of faecal matter were thus removed, but with little or no relief to the patient. The flushings were continued from day to day on the 9th, 10th, 11th, and 12th, with the addition of glycerine to the water used; the castor oil was also continued, and it was believed by the friends of the patient that some of the oil had passed through the bowels. I did not share this opinion; the apparent movements from the bowels were only from the colon.

On March 13 Drs. T. D. and Goodall Wooten were called in consultation, as the patient seemed to be steadily growing worse. It was recommended by the consulting surgeons that the injections be continued, and that a rectal tube be passed as far beyond the sigmoid flexure as possible, and that the flushing be done through this tube, which recommendations were faithfully carried out, but without benefit. But on the contrary, the symptoms on the 14th were of greater gravity, and an operation was proposed and declined. The pain had by this time become so excruciating as to require the daily hypodermic injection of ¼ grain of morphia with 1-100 grain of atropia. The entire abdomen was intensely distended, and vomiting recurred at intervals of six to eight hours, of large quantities of fluid and semi-fluid matter of offensive odor, but not distinctively stercoraceous.

From the 14th to the 18th there was little or no change in the general symptoms, except their daily increasing gravity, and the increased debility of the patient.

On the latter date an operation was again proposed, and urged, but again declined. On the 19th, 20th and 21st the vomiting increased in frequency, and the odor became more distinctly faecal. The abdomen was like a drum, the intense distension interfering seriously with respiration. The pulse was 140 to the minute, and scarcely perceptible. On the 22d the patient seemed to be steadily sinking, and death seemed inevitable.

At this stage of the case, when the patient's condition seemed hopeless, the mother of the girl at last acceded to and requested an operation, and although the patient seemed to be in articulo mortis, I determined to give her the only remaining chance, however slender, for her life.

Accordingly, at three p. m. March 22, assisted by Drs. Bennett, Hudson and Jones, of this city, I proceeded, after a thorough cleaning of the surface, to open the abdomen in the median line by an incision about three and one-half inches in length from the umbilicus to near the os pubis.

Through this opening the intensely distended ileum immediately protruded, and was received on warm aseptic towels. The distended gut was intensely congested, and of a dark coffee color. There were, however, no adhesions, exudations or gangrene to be seen. In order to seek for the point of obstruction the ileum was removed from the abdominal cavity to almost its entire length.

Tracing it downward the obstruction was at length discovered in the ileum, about two feet above the ileo-caecal valve. At this point the gut was firmly bound down to the posterior surface of the abdominal cavity by what seemed to be an ordinary fibrous band, completely occluding its caliber. This band was quite tough, requiring to be incised in order to release the bowel.

From the hurried examination of the nature of the tissue composing this band, and considering the situation of the obstruction, I have reached the conclusion that it was composed mainly of the remains of the vitalline duct. The bowel had so long been nipped and constricted at the point of the obstruction that when released it did not at once regain its normal shape and caliber, but remained puckered and contracted, until by careful manipulation and stretching, it was believed to be partially pervious to its contents.

This accomplished, it was found, owing to the immense distension of the ileum above the point of obstruction, that it would be impossible to return the intestines to the abdominal cavity without using more force than was deemed safe in their diseased condition. The patient was barely alive; no time could be lost in discussion. I immediately adopted the only practical expedient, viz.: the opening of the distended gut in three different places and removing its contents, con-

sisting of both gas and faecal matter. More than a quart of the semi-fluid content of the bowel was thus removed. The bowel was completely collapsed. The openings in the bowel were then carefully closed with the Lembert suture, using for the purpose fine sterilized silk, and cutting the knots very short. This done, the bowels and the abdominal cavity were thoroughly irrigated with sterilized water, the intestines returned and the abdomen closed in the usual manner.

The collapse of the patient was profound, and no one present expected her to recover from the shock of the operation. She seemed to be pulseless, but the ear applied to the cardiac region could detect its feeble contractions. She was carefully surrounded with bottles of hot water, and brandy and sulphuric ether were administered hypodermically. Reaction was slow, but complete. The bowels moved freely during the night, and on the morning of the 23d her pulse was 120, and temperature 100 degrees.

I need not relate in detail the subsequent history of the case. Her recovery was rapid and complete, and at this time, one year since the operation, she is in the enjoyment of perfect health, and is at this time an attendant of the public free schools of the City of Austin.

A PREFERENCE FOR THE SUPRA-PUBIC OVER THE VAGINAL ROUTE.

By Joseph Meyer, M.D., Paris, Texas.

THE trend of surgical thought and work along the lines of pelvic disease has taken a wide swing in recent years. The solid phalanx of surgeons that fought for the abdominal incision as the proper gateway of approach to this secret citadel, in which lurked an enemy to health and happy womanhood, has been decimated, until I feel constrained to enter the lists (not as did the classic plumed knight), but rather to hold up the hands of the undaunted few defenders who remain prominent, among whom are my personal friends, Price and McMurtry. I would not be understood to intimate a want of confidence in the ultimate triumph of a practice that is not only *surgical*, but based upon conscientious conviction, enforced by painstaking experience and by results that have revolutionized regional surgery, that for a time almost crazed the female element of society, that swelled the ranks of abdominal surgeons and multiplied statistics of operated cases until the stigma that blurs the surgical record and furnishes object lessons for opposing argument may be traced (measurably at least) to results that ought never to have followed, and to cases that had better have been left untouched.

The record of the last twenty years is phenomenal in the annals of surgery. A more fertile field for criticism has never been surveyed. An arena dazzled by more brilliant results has never been approached. But the era of professional boast of progress and achievement that justly characterized the dawn and sunlight of antisepsis has culminated in one of encounter of methods.

It is no more sentimental to be a defender of the healthy uterus than it is surgical to remove it. I frown upon the temerity of that surgeon who would make ease of accomplishment stay his scalpel at the hazard of post-operative results, whose prevention were at its very point, or to determine for him the route by which he would approach the pathological nidus.

I disclaim personalities or invidious parallels. No one individual's experience alone can formulate a rule in surgery or abrogate basic principles. He who would scan the field of any surgical procedure and hope for accurate conclusions must stand upon an eminence above personal prejudice or even national jealousy. When I raise my voice in favor of supra-pubic section, I fail to catch its echo amid the din of voices calling out for the vaginal route.

It is a marked characteristic of our age to "prove all things"; let it be also to "hold fast to that which is good." Although the vaginal route is one of the oldest of surgical operations (limited), it may also be said to be one of the newest, and under the safeguards of modern asepsis and technique has agressively extended its scope upward through and above the pelvis, until its tabulated results, numbering cases by the hundreds, call up similar lists of the laparotomies of the past decade that form the basis of comparison of method and result.

If a comparison of results is necessary to determine method or route, then I insist that a due consideration must be given the time-element (post-operative, I mean).

Neither can I emphasize this too strongly. The hernias, fistulas, neuroses and failures chargeable to the one are an open page to the surgeon, and to society, too, because of length of time (post-operative).

The ill effects and failures chargeable to the other are as yet known but in part, and for the very same reason—post-operative time.

The failures to cure and the imperfect results of the earlier history of the old way, have not only led to fewer failures and perfected methods in the one, but also have paved the way and trained the operator for excellent results by either route.

I need not here recite the arguments advanced in support of the one or the other route, as they are familiar to all, either from the animated discussions of their respective advocates in our associations, or from the pages of the medical press. Suffice it to say there seems to be a prospective end to discussion by virtue of numerical authority upon the side of the vaginal route, but the pioneer work performed, the splendid results achieved and the possibilities still in store for the supra-pubic incision, have made an indelible imprint upon surgical approach for all coming years, reflecting credit upon the host of surgeons whose faithful and fruitful labors in late years have perfected it, honor upon the brilliant few of earlier years who practiced it, and luster about the name of my honored kinsman, McDowell, who first dared to do it at the dawn of a century so

replete with scientific and surgical triumphs, that I refer with pardonable pride (I trust) to his legacy, which I share in common with a grateful profession, enriched by the joyful acclaim of gratitude from an unnumbered chorus of happy women whose lengthened lives, disenthralled from invalidism and pain, attest his blessed heritage.

I briefly report two hitherto unreported cases selected as types of chronic and acute pelvic inflammatory troubles, that necessitate operative interference as the only means of cure, and each affording a sufficient post-operative time-history with which to estimate method:

1. Mrs. A. W., aged 32; mother of two children; an invalid for twelve years, and bedridden for the last four and one-half of the twelve years; accepted operation for relief April 9, 1892.

I operated through a median supra-pubic incision three inches in length, and removed both appendages. The right ovary was a monocyst about as large as a billiard ball. The left was cirrhotic and had to be enucleated from a complicated mass of exudate and old and strong adhesions. I closed the incision with silkworm gut suture without drainage.

2. Mrs. J. T. D., aged 33; four children, and ill from date of birth of her last child in July, 1892; from which time on to the day of operation, March 31, 1893, her life had been jeopardized by an occasional menace from tubal leakage, protected, however, by plastic products that shut off the peritoneal cavity from a pelvis no longer large enough to contain its pathological mass now rising to a level with the iliac crests. Through an eight inch median incision, I succeeded in removing the necrotic remains of the adnexae; cleaned out the large puddle of pus; freed adhesions from bowel, bladder and pelvic wall; placed a glass drain tube and sutured the incision as in the other case.

Both made good recoveries and both are well to-day without hernia, fistula, or other post-operative pest.

Had I reported these cases soon after operation either would have received more minute description and more extended notice, which to-day would be superfluous because of the many similar experiences now common to us all. I need not extend the list from my own work. I have selected these because they are typical cases, and for the further reason that I have a personal knowledge of their past and present condition, and because neither has needed or undergone any subsequent operation, either at my hands or another's: and finally, because both these ladies are still well and are assiduously pursuing their domestic avocations in their respective homes with their husbands and children, and I speak candidly when I say, happily too, for I believe contentment dwells with them there.

A German army surgeon states that in a large number of "sprains" of the ankle joints the Roentgen ray showed that in the majority of cases there was actually either fracture or dislocation of some one or more of the small bones. The treatment should be fixation, in order to prevent false joints, exostoses, etc., leaving permanent impairment of functions.

SINUS OR FISTULA FOLLOWING ABDOMINAL OPERATION.

By L. S. McMurtry, M.D.,
Professor of Gynecology in the Hospital College of Medicine, etc., Louisville, Kentucky.

Fortunately fistulae are less frequent after abdominal operations now than formerly. In early operative work in abdominal surgery fistulae resulted from incomplete operations. Adhesions were separated, the abdomen was closed with a drain, and care was not taken to look for injuries to the intestines, which escaped the operator's notice, and fistulae occurred in consequence.

I do not believe a drainage tube properly used ever produced a fistula. I have heard surgeons speak in discussions about the drainage tube punching holes in the intestine, etc., but I cannot conceive how a drainage tube, either glass or rubber, could make a hole in the bowel if properly used. On the other hand, it must be remembered that it is sometimes the most fortunate thing in the world for a fistula to obtain; it often preserves the life of the patient. Consequently a fistula is conservative, and oftentimes the patient recovers with a fistula, who would otherwise die.

These cases are less frequent now, which is due to more careful and thorough work. Incomplete operations in abdominal surgery are worse in their results than in any other department of surgery. When improper and imperfect work is done, where proper attention is not given to searching for injury to the coats of the intestine, where adhesions have been separated, etc., fistula results; but fistula can in a large measure be avoided by observing care in these respects.

In regard to sinuses that occur from silk ligatures, much of that is due to the methods of operating. I have removed in two cases. where operations have been done by others, pieces of silk which were larger than the cotton twine ordinarily used in the shops to tie bundles; where it was wound round and round a pedicle. Of course, it could not be disposed of; it had not been properly sterilized; it was too large to be encysted by the peritoneum; sinuses resulted, and it may be said they were conservative; the ligatures were removed and the patient recovered. Sinuses leading down to a ligature will usually take care of themselves. Fecal fistulae following abdominal operations and following operations on the intestines, where adhesions have been separated, leaving a little opening in the external coat of the bowel, will also in most cases heal in time. I have seen many cases illustrating this fact.

The cases of extensive fistula or sinus with universal adhesions are indeed to be dreaded. They are formidable cases, and most of them will die when operated upon by the most skillful surgeons. I have seen several cases where there was an enormous quantity of fecal matter poured out through the fistula; where the fistula is high up in the intestine the mortality is exceedingly heavy. It is a serious question to decide just what to do in such cases. In emaciated subjects if operation is done the patients will die; if let alone they will die.

The great desideratum is to improve our operative methods, to observe greater care, to cultivate methods of accuracy and precision, to look carefully over the entire field of the operation before closing, and if injury to the gut is discovered it should be repaired at that time.

Rats as a Hair Tonic.—A Chinese gentleman advocates the use of the rat as an article of diet, and makes the following remarks on its properties as a hair restorer (*Med. Rec.*): "What the carrot is to a horse's coat the rat is to the human hair. Neither fact can be explained, but every horsemen knows that a regimen of carrots will make his stud as smooth and lustrous as velvet, and the Chinese, especially the women, know that rats used as a food stop the falling out of hair, and make the locks soft, silky and beautiful. I have seen it tried many times, and every time it succeeded."

In twin pregnancy the maternal mortality is more than double that of single pregnancy.

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"Blessed is he who hath found his work. Let him ask no other blessedness."—CARLYLE.

THE GOSPEL OF HEALTH.

AS we look back through the centuries of the Christian era and trace the progress of the Christian religion in its effects upon the development of a higher type of life, the unfolding of the God within us in a knowledge of the laws of nature, blending their harmonies into our own lives, and controlling by their increasing purity and strength the evil passions clinging to us in our slow evolution from the brute creature, we cannot always resist the question: Have the triumphs of the Christian Church in all these long centuries been what they might have been if the real teachings of Christ had been understood and worked out by the leaders of the Christian faith along the lines of unselfish harmonious lives, when a healthy, well developed body gave form and touch to the inspiration of a soul in its evolution to a higher life, acting and reacting upon each other? Let the clash of sects, the tyranny of ecclesiastic power, the narrow-minded and intolerant bigotry which, thank God, is fast retreating to the hell from which it sprung, answer the question. How much more rapidly would Christian thought have been developed and Christian work progressed if the Fathers of the Church had blended and incorporated with the high spiritual teachings of Buddha and of Christ, the education of the Greeks in their love of art, in their bringing the human form to its highest state of physical development, of beauty and of strength. To produce health—that is, harmony and sympathy, proportion and grace, in every faculty of mind and body—that was their notion of education. The very elements of this education precluded those vices which debase the soul and enervate the body. If the love of the beautiful and the perfect in art or poetry in the development of the human form, making it a fit receptacle for the immortal soul, had become more a living part of the new faith, how much waste of energy, how much anxiety and misery, might have been spared. When the Church awakens to the fact that our education in those laws of nature which are the will of God, about the welfare of our bodies, and which therefore we are as much bound to know and obey as we are bound to know and obey the spiritual laws whereon depend the welfare of souls, they will realize that this kind of education is of the utmost importance and should take a prominent place among its most active agencies.

The Roman Catholic Cathedral, on Fifth avenue, between Fiftieth and Fifty-first streets, in point of architectural beauty and splendor and impressiveness of service, is one of the largest and most attractive places of worship on the continent. The Episcopal Church is erecting a magnificent cathedral on the ground of the Leek and Watt Orphan Asylum, the cost and endowment of which will be among the millions. Both of these cathedrals are educational institutions in more senses than one, and will undoubtedly accomplish a great amount of good. On the corner of Sixth avenue and Central Park south is an institution of a different character, and yet, with all due reverence for the Church, with a hearty admiration for the work it has accomplished, we are strong in the belief that this institution, "*The New York Athletic Club*," will exert a wider, stronger influence for good upon the young men of this city than either of the cathedrals. They are taught here in an atomsphere of refinement, surrounded by artistic beauty, those great lessons of life upon which character is founded and success assured. Through the courtesy of the president, Mr. James Whitely, one of our most distinguished bankers, we were conducted through the club house in which science and art had been taxed in every department to produce the most perfect results. The tiled floor of the swimming bath, one of the largest in the world, can be seen its whole length through the five to seven feet of constantly changing pure filtered water with which it is filled. On one side of this large hall, fifty feet high and surrounded with a gallery, are the Turkish and Russian baths, and luxurious retiring rooms. As we pass from one floor to the other, through the parlors, the library, the reading-room, the gymnasium, the smoking room, up to the top of the

vast structure to the dining and breakfast rooms, fronting the whole length upon the Park, we are struck with the exquisite taste in every department of this great educational institution, for it is an educational institution of which the Greeks in their palmiest days might have well been proud. The refinement, the culture, the artistic taste displayed when associated with the most perfect appliances for cleanliness and physical development, and a cuisine in which the physiological requirements of a healthy organization is studied from a scientific standpoint, must all contribute to the highest condition of physical health and a corresponding strength and purity of thought.

But there is another feature of this great educational institution which is one of the most important of all. The club owns an island, Traver's Island, only a short distance from the city, which the landscape gardner has made a paradise of beauty. A large club house has been erected with ample facilities on the ground for the games and exercises which contribute so much to development and health.

It is true the Church and the community at large within the past few years, and especially our colleges, are awakening to the necessity of physical culture, but they are slow to realize an important part of the work, and that is the quality and preparation of food. Not only should every church have its gymnasium, but every school where meals are taken a cuisine in which the food should be in kind and preparation thoroughly adapted to the physical and mental condition of the pupil. If a club like the New York Athletic Club were established in every city it would do more for national strength, more for public morals, more for religion in its highest, purest sense, than millions poured into the treasury of home and foreign missions.

INVESTIGATION OF ARMY.

THE investigation recently made of the charges of mismanagement in the army seriously affecting the medical department has shown that while many of the charges had but little more foundation than a vivid imagination, enough was true to render some radical change in the department absolutely imperative. We have referred to similar charges brought by the English people against the medical department in the recent campaign in Egypt, where the mismanagement was even worse than ours in Cuba, and the organizing by Parliament of a Royal Medical Corps, making it a distinct department of itself, with its own officers and complete control of everything necessary to carry on successfully and expeditiously its work. The recent campaign in the Soudan shows how infinitely superior the new plan is to the old. With its own commissary, its own quartermaster and with trained officers to give and execute orders as the occasion required, there was no delay, no confusion, but in all cases prompt and efficient work.

There was a perfectly equipped field hospital 50 yards in the rear of the Zariba and a base hospital 400 yards in the rear. The wounded were carried back by reserve companies and attended to, without the least delay or confusion. There is but one opinion as to the highly successful manner in which the medical service has in the face of very great difficulties accomplished its part in the Soudan campaign. The British Red Cross Society conveys the sick and wounded on a steamer of their own between Assouan and Cairo. She carries two medical officers and eight men from the Royal Medical Corps, and an abundance of medical supplies fitted for the invalid.

The Red Cross Society in our recent campaign, always prompt and efficient, first at the front and ready with food, medical supplies, hospital ships, and good nursing for any emergency, illustrates the superiority of a service working so successfully in the Soudan campaign, when the central power is within itself, directed by minds trained to the emergencies of war, quick to see and prompt to act. Incompetent quartermasters and commissions, inefficient surgeons and nurses would be soon eliminated from the service. The favorite axiom of Gen. Jackson, "Let every tub stand on its own bottom," would soon bring to the front the best material. In the reorganization of the army, which our increased possessions render absolutely necessary, the medical profession will demand, in the light of the past, a reorganization of the medical department on the lines of the English Royal Medical Corps.

BILIARY SECRETIONS.

THE influences of drugs upon biliary secretions has been from time to time tested by drawing off the bile through a biliary fistula and noting the amount secreted through the stimulating action of different drugs. The latest experiments of this kind we find in the June issue of the *British Medical Journal* in a contribution from Dr. William Bain, of the Physiological Laboratory of St. Thomas Hospital. Dr. Bain studied the effects of mineral springs, notably the Kissingen at Harrowgate, and the Carlsbad, of Bohemia, formulating his conclusions of the ac-

tion of other springs of similar constituents upon the results obtained from these. Dr. Bain also studied the effects of such drugs as euonymin, iridin, benzoate of sodium, salicylate of sodium, and podophillin, resin and podophillin toxin. In each case an analysis of the urine was made at the same time the bile was examined. The amount of bile secreted in 24 hours in a small man, of medium height, was found to be about 775 cubic centimeters, which is about the quantity estimated by other investigators. Dr. Bain found that the mineral waters, and also euonymin and the benzoate and salicylate of sodium, all increase the biliary flow; the two latter also increasing the excretion of uric acid in the urine. The preparation of podophillin and iridin increase the proportion of bile solids without increasing the quantity of bile. These studies are interesting as they confirm the views generally held by physicians, and illustrate the beneficial results obtained by certain drugs and the so-called cathartic mineral water upon hepatic torpor, and also upon the fact that hot water taken on an empty stomach does not increase the biliary secretions, that its beneficial effect must arise from the stimulating action of heat on the mucous membrane and its influence on the portal circulation.

PSYCHICAL RESEARCH.

NO one has contributed more during the last decade to elucidating the power of mind over matter and unfolding to a certain extent those lines of spiritual thought and power which are taking such firm hold, not only of the popular but the thoroughly scientific mind than Sir William Crook. In his inaugural address as president of the British Association for the Advancement of Science his voice had no uncertain sound. His position was that of a man of science fearless in following its lead and expressing his convictions without hesitation in clear and emphatic language. The great influence which a man of the scientific attainments and the worldwide reputation of the president of the most celebrated scientific association in the world will exert upon spiritual investigation, must so far popularize it with thinking men, that we may expect an ever increasing unfolding of those spiritual laws which will work a complete change in the medical profession, increasing immensely its power for good by a clearer insight into the process of life and the development of disease. The few brief extracts we make from the president's address will show his position upon one of the most absorbing topics in the scientific world.

"No incident in my scientific career is more widely known than the part I took many years ago in certain psychic researches. Thirty years have passed since I published an account of experiments tending to show that outside our scientific knowledge there exists a force exercised by intelligence differing from the ordinary intelligence common to mortals. This fact in my life is, of course, well understood by those who honored me with the invitation to become your president. Perhaps among my audience some may feel curious as to whether I shall speak out or be silent. I elect to speak, although briefly. To ignore the subject would be an act of cowardice—an act of cowardice I feel no temptation to commit. To stop short in any research that bids fair to widen the gates of knowledge, to recoil from fear of difficulty or adverse criticism, is to bring reproach on Science. There is nothing for the investigator to do but to go straight on 'to explore up and down, inch by inch, with the taper his reason'; to follow the light wherever it may lead, even should it at times resemble a will-o'-the-wisp. I have nothing to retract. I adhere to my already published statements. Indeed, I might add much thereto. I regret only a certain crudity in those early expositions which, no doubt justly, militated against their acceptance by the scientific world. My own knowledge at that time scarcely extended beyond the fact that certain phenomena new to science had assuredly occurred, and were attested by my own sober senses, and, better still, by automatic record. I was like some two-dimensional being who might stand at the singular point of a Riemann's surface, and thus find himself in infinitesimal and inexplicable contact with a plane of existence not his own. I think I see a little farther now. I have glimpses of something like coherence among the strange elusive phenomena; of something like continuity between those unexplained forces and laws already known.

"All the phenomena of the universe are presumably in some way continuous, and it is unscientific to call in the aid of mysterious agencies when with every just advance in knowledge it is shown that ether vibrations have power and attributes abundantly equal to any demand, even to the transmissions of thought. While it is clear that our knowledge of subconscious mentations is still to be developed, we must beware of rashly assuming that all variations from the normal waking condition are necessarily morbid.

"It has been said that 'Nothing worth the proving can be proved nor yet disproved.' True though this may have been in the past, it is true

no longer. The science of our century has forged weapons of observation and analysis by which the veriest tyro may profit. Science has trained and fashioned the average mind into habits of exactitude and disciplined perception, and in so doing has fortified itself for tasks higher, wider, and incomparably more wonderful than even the wisest among our ancestors imagined. Like the souls in PLATO'S myth that follow the chariot of Zeus, it has ascended to a point of vision far above the earth. It is, henceforth, open to science to transcend all we now think we know of matter, and to gain new glimpses of a profounder scheme of Cosmic law. An eminent predecessor in this chair declared that 'by intellectual necessity he crossed the boundary of experimental evidence, and discerned in that matter, which we, in our ignorance of its latent powers, and notwithstanding our professed reverence for its Creator, have hitherto covered with opprobrium, the potency and promise of all terrestrial life.' I should prefer to reverse the apothegm, and to say that in life I see the promise and potency of all forms of matter. In old Egyptian days a well-known inscription was carved over the portal of the Temple of Isis: 'I am whatever hath been, is, or ever will be; and my veil no man hath yet lifted.' Not thus do modern seekers after truth confront Nature—the word that stands for the baffling mysteries of the universe. Steadily, unflinchingly, we strive to pierce the inmost heart of Nature from what she is, to reconstruct what she has been, and to prophesy what she shall yet be. Veil after veil we have lifted, and her face grows more beautiful, august and wonderful with every barrier that is withdrawn."

CRAIG COLONY OF EPILEPTICS.

DR. FREDERICK PETERSON, the President of the Board of Managers of the Craig Colony of Epileptics, gives in a recent number of the *Philadelphia Medical Journal* an exceedingly interesting account of one of the most useful and complete institutions in the world. The property, consisting of 1,900 acres at Sonyea, Livingston Co., in the garden valley of the State, was purchased by the Shakers, who in fifty years of well directed work have made it a highly remunerative property, with well cultivated fields, fine orchards and pastures, rich meadows and productive market gardens, and thirty substantial buildings for residences, barns and shops. When this large and richly cultivated property came into the hands of the State, the celebrated landscape gardeners, Messrs. Olmstead, Olmstead and Elliot, were selected to prepare the plans for the grounds and buildings to meet the requirements of the hospital. These plans utilized to the best advantage the natural beauties of the land, and the scientific construction of the necessary buildings to meet the wants of an institution which was intended to be to a partial extent self-supporting. The working out of the details under proper guidance will take several years, and will be accomplished by the patients themselves. Two hundred and sixty epileptics are now in the institution, and more than fifty per cent. of their maintenance has been earned by their own labor. The beneficial effects of colony life is fully established by experience thus far gained, the number of attacks in most cases showing a marked diminution. Outdoor work, with pleasant surroundings, a regular life and good food are prominent factors in the beneficial effect of the colony life. In addition to the moral therapeutics, each case of epilepsy is individualized and treated according to the latest researches in science, as taught by the ablest professors in this department of our profession, aided by original investigators, clinical, chemic, pathologic and therapeutic, with the object constantly in view of discovering the causes of and the best remedies for the malady. To facilitate this work chemico-physiologic and pathologic laboratories are in process of construction, under the direction of one of the best pathologists and pathological chemists in the State, who has been appointed to the consulting staff of the institution. The very thorough work being done upon strictly scientific lines promises well for the future.

THE EARTH'S AGE.

GEOLOGISTS have based their guesses, for they are but little more, of the age of the earth on the situaion and formation of water and earth deposit in the decay of vegetable matter. An entirely different class of experiments are now being tried in the geological laboratory of Harvard College, of so scientific a character that in the conclusion reached, guesswork will be to a great extent eliminated. The process involves the use of mechanism in testing the conductivity of different grades of rocks taken from different places, and will settle the question of why certain parts of the interior are hotter or colder than other parts.

There is a consensus of opinion among scientists that while the center of the earth is very hot, there are no raging fires there, but the latent heat is what remains of the cooling process which has been going on for a million of years. According to this hypothesis, the temperature ought to

steadily increase as we get deeper and deeper into the earth, and this has proved true in every deep hole which has been dug, except the Calmut and Heclay, the deepest in the world. Here the hypothesis fails, for at the depth of one mile the thermometer only stands at 70 degrees. Evidently the gradual rise in temperature does not hold good in the Lake Superior districts owing undoubtedly to the low conductivity of the surrounding rock. When the difference is determined a basis of calculation will be established from which some new facts may be gleaned and upon which some startling theories may be built.

BLACKMAIL.

A FAVORITE plan with one of the most disreputable class of blackmailers is to select some physician of wealth and high social standing to see a female patient in some disreputable house, and then extort money as the price of release. The game failed recently with a New York physician, who was a trained athlete and knew how to use his fists. Never forget there can be no safe compromise with a blackmailer.

IT is said that New York shows a decrease in the number of medical students this year, and that Chicago is first. Nothing is said about the quality though. Decrease in number means increase in literary attainments, which is desirable. This condition is the first evidence of the usefulness of our present laws respecting entrance examinations—fewer numbers, but better educationed men!

DURING the months of June, July, August, and September, 1898, there were 496 operations in the surgical and gynecological divisions of the Metropolitan Hospital. For the nine months ending Sept. 30, 4,963 patients were treated, with a death rate of 6.27.

IT is claimed that the fly has been the principal means of disseminating the germs of typhoid in the army, showing the necessity of earth closets, which could easily be extemporized for camp life. Of course everything about the camp becomes infected and changing of site is of no use.

BIBLIOGRAPHICAL.

A MANUAL OF MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers Da Costa, M.D., Clinical Professor of Surgery, Jefferson Medical College, Philadelphia, Surgeon to the Philadelphia Hospital, etc. With 386 Illustrations. Philadelphia: W. B. Saunders, 1898. Pp. 911. Octavo. Cloth, $4.00.

It was the intention of the author to make a book which would stand between the complete but cumbrous text-book and the incomplete but concentrated compend, and the effort has been successful as is shown by the demand for a second edition. The general character of the manual remains unchanged, although practically re-written, new articles added, and the whole text made to accord with our present knowledge.

The book opens with the subject of Bacteriology as a foundation, is ably seconded by Asepis and Antisepsis, and then follows the usual order of subjects. The text is carefully and concisely written and shows painstaking throughout. The work may be denominated as standard.

KING'S AMERICAN DISPENSATORY. New Edition. Entirely Rewritten and Enlarged, by Harvey W. Felter, M.D., Adjunct Professor of Chemistry in the Eclectic Medical Institute, Cincinnati, O.; John Uri Lloyd, Ph.M., Professor of Chemistry and Pharmacy in the Eclectic Medical Institute, Cincinnati, O.; Author of "The Chemistry of Medicines"; "Drugs and Medicines of North America"; "Etidorhpa," etc., etc. Two volume edition, royal octavo, each volume containing over 950 pp., with complete Indexes. Cloth, $4.50 per volume, postpaid. Sheep, $5 per volume, postpaid. Volume I. now ready. The Ohio Valley Co., Publishers, Cincinnati, O.

King's American Dispensatory is the standard authority in the Eclectic school, and covers, in its presentation of therapeutic agents, so wide a field that it naturally fills a very important place in the library of every physician who desires to keep fully up with the times. The work now published is the third revision and the eighteenth edition, and under the editorial supervison of Harvey Wickes Felter, M.D., and John Uri Lloyd, Ph.R.M., Ph.D., has been entirely rewritten and enlarged.

A CLINICAL TEXT-BOOK OF MEDICAL DIAGNOSIS, Based on the Most Recent Methods of Examination. By Oswald Vierords, M.D., With Additions by Francis H. Stuart, A.M., M.D. Fourth American Edition, from the Fifth German. Revised and Enlarged, with 194 Illustrations. W. B. Saunders.

It will be found that all the qualities which made the earlier editions so acceptable have been developed with the evolution of the work to its present form. It is a veritable mine of information on all points of medical diagnosis. The young physician will find this will be one of the first books to be added to his working library.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY. By George Frank Butler, Ph.G., M.D. Second Edition, Revised. W. B. Saunders, Publisher, 1898.

In the second edition of Dr. Butler's valuable work the important addition recently made to the physiological action of drugs specially relating to antipyretics, antiseptics, aconite and strychnas have been included. A chapter on the nature and effects of drugs has been substituted for that on definitions. Serum-therapy and the therapeutics of nuclein are also fully discussed in this volume.

ATLAS AND EPITOME OF OPERATIVE SURGERY. By Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized Translation from the German. Edited by J. Chalmers Da Costa, M.D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, etc. With 24 colored plates and 217 illustrations in the text. Philadelphia: W. B. Saunders, 1898. Pp. 395. Price $3.00.

ATLAS OF SYPHILIS AND THE VENEREAL DISEASES, Including a Brief Treatise on the Pathology and Treatment. By Prof. Dr. Franz M. Racek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M.D., Consulting Surgeon to St. Luke's Hospital and the City Hospital, New York; late Professor of Genito-Urinary Surgery and Venereal Diseases, New York Post Graduate Medical School and Hospital. With 70 Colored Plates. Philadelphia: W. B. Saunders, 1898. Pp. 122, besides plates. 12mo. Price $3.50.

These two books belong to Mr. Saunders' Series of Medical Hand Atlases, of which we have spoken before. They are certainly wonderful specimens of book-making and form a ready and satisfactory substitute for clinical observation outside the hospital.

The price at which these elegant books are afforded has never been approached before, and the publisher should have the thanks of the profession for making this possible. This work has been done in nine different languages, and this universal translation and reproduction, with enormous distribution, accounts for the price at which they are sold.

The work has been done with that thoroughness characteristic of the German mind, and the selection of subjects for illustration are practical and suited to those for whom they are intended.

TWENTIETH CENTURY PRACTICE. An international encyclopedia of modern medical science by leading authorities of Europe and America. Edited by Thomas L. Stedman, M.D. In twenty volumes. Volume XV., Infectious Diseases. New York: William Wood & Co., 1898.

The volume opens with an exceedingly interesting and exhaustive article on influenza, by Dr. Ditmar Finkler, of Bonn, covering 250 pages. The opening paragraph of the author's preface will give an idea of the thoroughness with which the subject is treated: "Influenza is an infectious disease which in the highest degree appeals to our interest in many directions. It, at times, extends pandemically, with a velocity we see in no other disease known. Numerous phenomena of its epidemiological behavior border on the miraculous, and fill us with wonder and astonishment. On the other hand, influenza in single cases produces so manifold and often such remarkable morbid pictures, that the study of the disease, though demanding great labor, brings a rich reward eventually. In the closing years of this century, influenza has given us occasion to test all the modern attainments of medical science. Physicians have labored whole-souled in the attack against this pestiferous disease, and they have also worked with such ardor in the solution of the riddle which confronted them, and they have endeavored to fathom it with such an ideal working together in all directions, that it may be truly said that influenza has become the teacher in many branches of medicine, and it has demonstrated to the whole world such thoroughness of methods on the part of physicians and investigators, that our profession has a right to feel proud of its members." Dr. Finkler's treatise is the most comprehensive and complete in all its details of any which has appeared upon the subject.

There is no locality where typhus fever has prevailed to a greater extent than in the City of Mexico. The drainage of the valley, recently accomplished by a tunnel through the mountain, will probably put an end, to a great extent, to the disease which has been so fatal in the city. Dr. Eduardo Licéaga, in his article on typhus, has drawn from his wide experience with this disease information which could be obtained in no other way than at the bedside and the surroundings. The bubonic plague, or black death, is ably discussed by Drs. Skitasato and A. Nakagawa, of Tokio, Dr. Frank Billings discusses glanders and anthrax; Dr. Isman Boss, of Berlin, foot and mouth disease; Dr. Emil Ponefiok, of Breslau, actinomycosis; Dr. N. G. Kiale, of Baltimore, rabies, and the Drs. Gaston, of Atlanta, Ga., pyemia and septicemia.

GUIDE TO CLINICAL EXAMINATION AND TREATMENT OF SICK CHILDREN. By John Thompson, M.D., F.R.C.P., E.D. With 52 illustrations. Lea Brothers & Co., 1898.

The author gives the leading points in diagnosis with marked clearness and precision and his suggestion for treatment are generally admirable.

ELEMENTS OF HISTOLOGY. By E. Klein, F.R.S. and J. S. Edkins, M.A., M.B. With 290 Illustrations. Lea Brothers, 1898.

Since the first edition of this book in 1889 considerable additions have been made to the knowledge of minute structural anatomy. The progress in the discoveries in the life of the cell and its structure, the remarkable facts ascertained respecting the formation of the central nervous system and the sense organs, have made it necessary to revise and make important additions to the chapters dealing with these organs. While care has been taken to correct and amplify other parts of the book, the chapters on the central nervous system have been practically rewritten.

A CLINICAL MANUAL OF SKIN DISEASES. With Special Reference to Diagnosis and Treatment. By W. A. Hardaway, M.A., M.D. Second Edition, Revised and Enlarged, with 42 Engravings and 2 Plates. Lea Brothers & Co., 1898.

The author has confined himself, in a great measure, to those practical and fully established facts which would best aid the practitioner in his work, leaving to larger treatises the more full discussion of theoretical question. In a clear and condensed form the writer presents the most advanced ideas in diagnosis and treatment of his specialties.

A MANUAL OF OTOLOGY. By Gorham Bacon, A.M., M.D., Professor of Otology in Cornell University Medical College, New York. With an Introductory Chapter by Clarence J. Blake, M.D., Professor of Otology in the Harvard Medical School, Boston. In one handsome 12mo volume of 400 pages, with 109 engravings and 1 colored plate. Cloth, $2 net. Lea Brothers & Co., publishers, Philadelphia and New York.

This clearly written and well illustrated handbook will be of service not only to the undergraduate and general practitioner, but also to the otologist.

THE POCKET FORMULARY FOR THE TREATMENT OF DISEASES OF CHILDREN. By Ludwig Freyberger, M.D. London: The Ribman Publishing Co.

This small pocket volume presents in a concise form the leading drugs and their indications in the treatment of disease of children and will be greatly appreciated as a time-saver by the profession.

HANDBUCH DER ERNAEHRUNGSTHERAPIE UND DIAETETIK unter Mitwirkung von mehreren Gelehrten, herausgegeben von E. von Leyden. Zweiter Band, Erste Abtheilung. 390 pp. George Theime, Leipsic, Publisher, 1889. 10 Marks. Bound in paper.

This is the first section or part of the second volume of Leyden's very good work on alimentary therapeutics and dietetics, the first volume of which has been noticed in this journal.

This part still maintains the high standard of excellence which was carried out in the first volume. Dr. Dettweiler, the director of the sanatorium for consumptives at Falkenstein, Cronberg, Germany, which has given such favorable results in the treatment of this disease, commences with the alimentary therapeutic treatment of lung diseases. Then follows a section on the dietetic management of diseases of the throat, by Dr. Felix Klemperer, privat-docent of the University of Strassburg. Prof. M. J. Oertel, of Munich, who is so well known throughout the world for his original treatment of certain forms of heart disease, has elaborated the part devoted to heart affections. Prof. F. Jolly, of Berlin, an eminent authority, presents the section on the alimentary management of nervous maladies. The organic affections of the oesophagus and the stomach are presented, in extenso, by Prof. Franz Riegel, of Giessen. Prof. C. A. Ewald, of Berlin, that pioneer of work in gastro-intestinal diseases has worked out the dietetic therapeutics of intestinal diseases, while Dr. J. Boas, of Berlin, another prominent Berlin specialist on affections of the stomach and bowels and who has figured quite a bit in the literature of this branch for several years, brings forward the alimentary therapeutic measures in functional diseases of the oesophagus, stomach and intestines. Dr. F. Mosler and Prof. Peiper, who have recently written an interesting volume on animal parasites, go over the dietetics of diseases produced by parasites. Dr. E. Stadelmann, of Berlin, whose name is frequently met with in the literature of hepatic affections, presents the dietetic therapeutics of diseases of the liver; he also has written the terminating chart on diet in pancreatic affections. This number forms a worthy addition to the two preceding ones, which are of a high

standaid. The collaborators are all men who are authorities in their specialities and whose names are guarantees of good work. With characteristic German thoroughness each section is elaborated and presented in an exhaustive and yet a practical form. When finished, this handbook of Prof. Leyden will be one of the best, if not the best, on this subject. It is to be hoped that the next and final fascicle will soon be brought out. F. H. P.

LEÇONS DE PHARMACOTHÉRAPIE du Dr. B. J. Stokvis, Professeur a l'Universite d'Amsterdam. Traduction française des Drs. D. DeBuck et L. Moor, Revue et augmentée par l'auteur. Two volumes. Paper binding. Tome I., 1896, 470 pp.: Pharmacothérapie generale, Parasiticides. Tome II., 1898: Pharmacothérapie spéciale, Irritants Vrais, Astringents, Caustiques, Protectifs, Hématiques. Publishers, DeErven F. Bohn, Haarlem, Holland, and Octave Doin, Paris.

The name of Professor Stokvis, of Amsterdam, Holland, is known over the whole world as of a man who stands among the first medical authorities of the continent. In these two volumes, which have been translated from the Dutch into the French, he presents in a series of lectures a thorough and comprehensive as well as a concise and exhaustive recapitulation of our knowledge of drugs and their action. Though somewhat inclined to go too deeply into the chemical side of the drugs for the American reader, there is no doubt that in these two tomes he has given a very modern outline of the various remedies and their action on the human organism as well as on various animals. The opening chapters on general, psychic and somatic therapeutics are especially good and broad. His broad, deep and thorough knowledge of his subject is seen in his introductory section. The greater portion of the first volume is taken up with a consideration of the influence of the chemical structure of remedies on their physiological effect, the effect of the structure of organs and remedies interrelatively, the local and general action of drugs, the place of application, their modifications in the organism, the individual himself, immunity, antidotes, temperature, etc. The latter part is devoted to parasiticides, antiseptics, antizymotics, disinfectants, etc. A lengthy bibliographical list ends this volume.

The second volume opens with special pharmacotherapy, treating of drugs as usual by classes, as local irritants, bitters, eupeptics, laxatives, astringents, caustics, protective agents and finally, blood-producing agents, hæmatics. This second volume is much more practical, for he enters quite profoundly into their composition, chemistry, action, therapeutic applications and indications. Professor Stokvis is better known in pharmacological than in clinical circles, therefore this work leans towards the pharmacological and the chemical side rather than towards the clinical, towards which English-speaking practitioners naturally turn. Yet it must be said that the second volume is a very learned and at the same time a modern and quite practical presentation of the action of various remedies used in practice, as well as of about all the most recent and rarer ones. Holland has produced a great number of eminent physicians and clinicians, among which Prof. Stovkis deserves to be ranked. F. H. P.

THE CENTURY WAR SERIES—The *Century* magazine will commence in its November number a new series dealing with the recent war in the same remarkable way that gave distinction to the former series. The series will include two articles by Captain Charles D. Sigsbee, of the Maine; these will be followed by a full account of the adventures in connection with the sinking of the Merrimac, by Lieut. Hobson. Capt. Mahan will write from the point of view of a student of naval warfare of the decisive naval engagements of the war, the battle of Civite and the destruction of Admiral Cervera's fleet. Admirals Sampson and Schley, as well as nearly all the leading officers of the army and navy, will contribute articles to the new war series, giving their own personal experience and the detail ot facts as seen by their own eyes and in which they participated, making this war the most graphic and authentic history which could possibly be written.

THE LIVING AGE.—With the first number for October, *The Living Age*, the weekly eclectic magazine, which for more than 50 years has been a favorite with American readers, began a new series and appears in a new and attractive dress, suggesting *The Atlantic Monthly* in the clear legibility of its page. The familiar cover is to be retained, but it has been newly engraved and otherwise modernized.

Being a weekly magazine the size of *The Living Age* is, of course, smaller than the large monthlies, but it gives each month twice the amount of reading matter of any of them. *The Living Age* keeps us in touch with the best periodical literature of the world.

Dr. Axel V. Grafstrom, late lieutenant in the Swedish army, has prepared a very excellent text-book of mechanotherapy, with eleven pen and ink sketches, published by O. M. Poegis & Co. Price, $1.50. The book is made up to a certain extent from the author's articles, which have appeared at different times in leading medical journals, with marked approval by the profession. The work contains in a small space an immense amount of practical information and suggestions of real value.

SOCIETY REPORTS.

PROLAPSE OF THE RECTUM.*

BY W. O. ROBERTS, M.D.,
Professor of Surgery and Clinical Surgery in the University of Louisville, etc., Louisville, Kentucky.

This patient is forty years of age, former occupation farmer. At present he is a tramp. The trouble of which he at present complains was first noticed five years ago. It was brought about by heavy lifting. When the protrusion from the anus first occurred it was slight. The condition has gradually grown worse, until at present he can by muscular effort cause a prolapse of the rectal wall which extends out three and one-half inches by actual measurement, which he can reduce without manipulation. At the present time his prolapse comes down on the slightest effort.

You will observe as he is placed on the table, with his legs drawn up on the abdomen, that by a slight effort he can protrude the rectum fully three and a half inches, and by muscular effort can return it at will.

Dr. J. M. Mathews: I am very glad to see this case. It has some very unique features. First its history: It is seldom that we have prolapse of the bowel this large coming on suddenly. I believe the man's opinion that it was caused by heavy lifting is correct. The unique feature is that he can withdraw or pull in this heavy prolapse instantaneously without taxis or anything of the kind, simply by the exercise of muscular power.

The question naturally arises what shall be done with this man? or, a better way to put it, what should we do for any other man who might present to us with a similar condition? We might meet such a case in the higher walks of life, where it would be very essential to decide upon the proper method of operating upon and curing the condition. How can we cure this prolapse? Every surgeon recognizes the fact that prolapse of the rectum is one of the most formidable affections known. Many methods have been devised for treating prolapse of the rectum. The thermo-cautery has been brought into use, especially by Van Buren, who highly recommended it, even in a case of this kind, that by drawing six distinct lines down to the sphincter muscle, pressing heavily upon the sphincter, then packing the rectum for a number of days, then removing the packing, that the rectum would be retained and the prolapse cured. Dr. Roberts has spoken to me privately of that method. My individual experience is opposed to it. I have used the cautery in seven instances, never with perfect success, and with indifferent or negative results in most cases. The old method of simply taking out elliptical pieces or sections of the gut and stitching is not satisfactory. Even Mr. Allingham admits that. Then what are we to do? Here is a man with his rectum prolapsing three and a half inches by measurement, very large, nearly as large as the first. It is evident that all the coats are included and likely the

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* Reported to the Louisville Clinical Society. Stenographically reported for this Journal by C. C. Mapes.

peritoneum. I believe the best manner to operate upon this man or a case of this kind would be to amputate it. We know that we can remove, for instance, a cancer of the rectum and bring down the gut and stitch it with perfect success. There would be little dissection to make here. We could make a circular incision and I believe it would be perfectly feasible to amputate three and a half inches of the gut and stitch it. Of course the question would arise whether any peritoneum is included in this mass or not; doubtless there is, but even admitting that fact, by a careful dissection we could dissect it away and not interfere with it. I would suggest in this case, and it would be a rather unique case in surgery, that Dr. Roberts amputate this prolapse, and I believe it can be done with a perfect result. I do not believe any of the more ordinary methods will avail anything. This is a much larger prolapse than we usually see.

Dr. F. W. Samuel: The case is unique as far as my experience goes. I see no real necessity for an operation unless the man wants his bowel to remain up during the act of defecation. It has been my experience, and I have seen several cases of prolapse of the rectum in infants, that the bowel descends during defecation and has to be replaced. The patient suffers pain and inconvenience from dryness of the gut, etc., and in many cases immediate relief is imperative. This man's sphincter muscle, unlike that of a baby, is not relaxed; the baby cannot draw the mucous membrane back. I have in two cases employed nitric acid in the treatment of such cases in infants, taking a smooth white pine stick, dipping it in the nitric acid and running it along the bowel, after thorough washing. I made two or three applications in each case and the treatment was followed by perfect recovery. If this man desires the prolapse cured, amputation would be the proper method. Even if the peritoneum is involved it will not materially complicate the operation. Of course, in infants only such prolapse as becomes permanent needs treatment.

Dr. W. O. Roberts: It strikes me in this case that the operation referred to by Dr. Mathews—that is, resection of the lower end of the rectum—is the only one that holds out any hope for a cure. I have not talked with the man yet concerning an operation, and I think he has entered the city hospital simply to spend the winter. He is a tramp but may be honest and will request that an operation be performed. If I perform any operation upon him, I think it will be a resection.

THE EVOLUTION OF SCIENTIFIC MEDICINE.*

By Louis Faugères Bishop, A.M., M.D.,
Chairman Section on Medicine.

In beginning the work of the year your chairman may be pardoned if he expresses to you some thoughts that have arisen as to the relations of science to medicine, and of the evolution of medicine as a profession. The fact cannot longer be ignored that great changes have taken place in the economic relations between physicians and the public. The relation of physicians to the community has been profoundly modified by the general progress of knowledge and the extension of science and learning to so many fields of human activity. The number of professions in the true sense of the word has been enormously extended. The management of special commercial enterprises, such as railroads, telegraphs, financial corporations and factories is no longer entrusted to chance employees, who have acquired skill merely through experience, but are conducted by persons specially trained in engineering and forms of business. Professional training has become so diversified that the physician finds himself only one of a great many who are set apart to do a particular work because of special education. In the beginning the trades and business were far removed from science and the systematic improvement that comes through development along the lines of exact observation and inductive reasoning. Medicine also was involved in superstition and supported by authority rather than reason. As time has gone on the conduct of all human affairs—commercial, social, and even religious—has come under the dominion of the scientific tendency of the age that leads to simplification of method and organization of effort. At the same time medicine has thrown off superstition, secrecy and the reliance upon authority. So the public at large, and physicians as a class have come near together, and the physician finds himself one of a large number of specialists and subservient to much the same laws as the others. As a laborer, he must find a market, like his friend, the electric engineer and the rest, and must be governed by the same laws of fitness, supply and demand. Pressure of circumstances will compel him more and more to conduct the business side of his work in conformity with scientific business methods. In fact, to be unbusinesslike is to controvert the order of the just relations of man to man. Business in its best development is more highly moral than many a system of theology.

A great disturbing element in the business relation of physicians is philanthropy. The physician has more opportunities than others to exerise this faculty, and he also must be acknowledged as having more opportunities as an individual for gain by the wrongful exercise of the privilege of gratuitous service. He benefits himself but injures the business possibilities of other members of his profession. The same selfish principle is seen in the commercial world when large department stores sell without profit a class of merchandise, such as groceries, that they do not care to handle except to make the crowds come to their bazaar, but which same business represents the means of livelihood of a large number of small shopkeepers. In this way, for the sake of prestige and experience, the older physician may injure younger men. This is the hospital and dispensary abuse. But fortunately philanthropy has not escaped the modern scientific tendency, and it is recognized as a socialistic fact that charity must be controlled by fixed principles and not left solely to the impulses of the emotions. Organization cannot long be deferred. Philanthropy is seeking more and more the guidance of principles and facts developed by the scientific method of observation and experiment.

It is certainly true that a physician can no longer even practice without taking his more intelligent patients into his confidence. A smattering of medical knowledge has become a part of a general education, just as some mathematics, astronomy, geography, etc., are a part of the mental furniture of the average thinking and reading man. The dignity of the profession is well maintained when patients are told that a knowledge of medical *facts* is common property, that there is some difference in the power of different men to observe symptoms, but that the great difference between physicians and between the physician and the layman is in the trained judgment that determines the relative importance of facts and the quantity, time and character of treatment. Observe the really great physician at his work and you find him studying his patient with tremendous intentness, observing and weighing every symptom, summoning for consideration one plan of treatment and another, considering the applicability of one drug and another, and finally, frequently enough not interfering in any way with the satisfactory course of a self-limited disease. This picture is one of tremendous reserve power, that is the product of a trained mind and a sound judgment. Very different is it from the picture of the small-minded man, or the charlatan, who fires at every mark in the shape of a symptom, who grasps feebly at every therapeutic suggestion, who is too short-sighted to see the limits of his own power. The former physician has far more real power than the latter, and when the emergency arises will not neglect for a moment the necessary use of remedies and measures that would be entirely beyond the grasp of the weaker intellect. It is to train the public to believe in medicine as a science, and to believe in the value of knowledge, training and judgment that is the duty of the profession to itself, and the only hope of saving to the profession of medicine the dignity of the past.

The tendency in America is to give up all sects in medicine and allow physicians to choose their professional associates purely on the ground of integrity and personal preference. This liberal and more scientific spirit has found its chief growth in New York State, with the result that the controversial side of medicine has been abandoned for the scientific, so that New York may well be regarded as the center of influence and the modern school of scienific medicine, and a monument has already been raised to it in the large amount of good work in investigation and analysis that has been done. The modern school of scientific medicine relies for its recognition and support

* An address delivered before the New York Academy of Medicine, Oct. 18, 1898.

upon a public, educated in modern philosphy, a public dominated by the scientific spirit of a scientific age. It claims an advantage that medical knowledge should be open to any curious seeker, and that many medical facts should be of the common knowledge of the people. The public has already acquired that little knowledge that is so dangerous. It will not give it up. Our only salvation is to go boldly forward and educate the masses to a point where they themselves can discriminate between knowledge and imposition. The enemies of medicine have already entered upon a flank movement, and the newspapers are blackened with advertisements of serums, extracts of organs and germ killers, some of which assume the names of great discoverers. This movement of charlatanism was only to be expected, and must be met, as I said before, by training, so that the people shall be able to discriminate between science and fraud. As time goes on there will be fewer and fewer men who can be called great because they are conspicuous above their fellows, not because of the inferiority of men of the present day, but because the average of attainment has been so advanced that it is more difficult for any one to become pre-eminent. The Academy of Medicine has played its part in justifying medical knowledge and disseminating medical truth, but it cannot rest on its oars. The conclusions of the discussions of yesterday have become the actual practice of today, and it must move on constantly to new fields, or must re-cultivate old fields that for a time have lain fallow. Medical truth can never be attained, but must be constantly sought.

It would seem that unconsciously and with many forebodings of evil the profession has worked up to a more scientific plane in the broadest sense of that term. In the process, as has ever been the case in progress, many old idols have been shattered and the discipline of newly recognized laws has had to be learned. A progress of knowledge and civilization, as manifested in broader public education, in civil and political liberty and in the highly organized business and social relations, has changed the profession in two ways. The profession has been profoundly modified from within by the progress due to the introduction of the scientifio method and from without by the tremendous alteration of society at large of which it forms a part. So let us meet in this section with the true scientific spirit, approaching all subjects with open minds, willing to receive knowledge from every source and whatever be the medium through which it comes. We appeal to you to bring to this section the results of your work, and we pledge you a fair hearing, kindly criticism, and, we trust, helpful suggestion. The work of this evening is designed to open a new field of practical medicine to the profession at large. It is designed to map out practical applications of chemistry to the daily work of physicians; and to encourage those with special knowledge to so clearly describe and define practical chemical reactions that they may be useful to the physician untrained in theoretical chemistry.

INTUBATION FOR DIPHTHERIA: ANGEIO-NEUROTIC-OEDEMA OF THE LARYNX.*

By Samuel G. Dabney, M.D.,
Professor of Physiology and Clinical Lecturer on Ophthalmology, Otology and Laryngology in the Hospital College of Medicine, etc., Louisville, Kentucky.

I desire to report my last case of intubation, a little child aged two years, who made an easy recovery. It is a little strange that this should have been the seventh intubation I have done for the same physician within the last two years—all of them recoveries. It is rather remarkable that one practitioner should have had so many cases of laryngeal diphtheria within this time in the same neighborhood requiring intubation. There were all typical cases and there was no question about the diagnoses.

Another case that I saw recently is of some interest: The patient, a lady aged forty-two years, was seen in consultation. She had been having some cough, and for several days had been coughing up blood, and this occurred just at the time of her menstrual period. She had lost her voice also. There was no pain in the larynx, or elsewhere, but a little difficulty in breathing from obstruction there.

An examination showed that there was considerable swelling of the larynx above the vocal cords, in what are called the false vocal cords; also considerable redness there. From the appearance of the mucous membrane of the larynx it seemed that vicarious menstruation had occurred from this structure.

The case is also interesting from another standpoint: She gave the history of repeated attacks, with great shortness of breath and impairment of voice, coming on quickly, accompanied always by great nervous excitement. It would last several hours, and was usually attended by some hoarseness. In my judgment this is a rather rare trouble, angeio-neurotic oedema of the larynx, and at the time I saw the case it was attended by vicarious menstruation. A diagnosis of this affection is said to depend on the presence of lesions in the skin, attended with an irritable nervous system and often gastric disturbance. In this case, however, I believe I am warranted in the diagnosis from the suddenly occurring laryngeal oedema, attended with symptoms of nervous irritation. It is important to state that the kidneys and the heart were carefully examined with a negative result. All the symptoms subsided in a few days.

As to the pathology of angeio-neurotic oedema: It is thought to be due to a disturbance of the vaso-motor nerve center, possibly due to peripheral irritation, more frequently occurring from the stomach than elsewhere. Such cases are apt to be attended by some systemic disturbances.

*Reported to the clinical society and stenographically to this Journal by C. C. Mapes.

GALL STONES.*

By Joseph W. Irwin, M.D., Louisville Kentucky.

I will mention a few cases more especially with the view of getting the opinion of those present as to what in their experience should be done with them. I am convinced that a surgical operation would be the proper treatment in each case, but I am ready to listen to the opinions of those in a position to speak authoritatively on this subject.

I have at this time under my care six cases of gall stones. This is a greater number of such cases than I have seen in my practice at any one time before. Within the last year or two I have seen many cases of gall stones, the vast majority of them in women. In forty cases observed within a year, thirty-eight of them were in women. Why women are more subject to gall stones than men may be explained in their mode of dressing, exercise, habits of eating, etc.

In one case the gall bladder is larger than a child's head at full term; it extends downwardly into the right iliac fossa. The patient has passed twenty or thirty gall stones varying in size from a pea to double that size. Each of the patients has passed gall stones, which in addition to the tumors and phenomena present, make the diagnosis certain. I fear rupture of the gall bladder in some of the cases. I have urged that a surgical operation be done, but it seems impossible to induce any patient to submit to it. I wish to inquire of those who have had more experience in such matters than I have had, if they have observed frequent rupture of the gall bladder, and if there is much danger of its occurrence in such cases? The pain in all cases has been very great.

DISCUSSION.

Dr. E. C. Dudley, of Chicago (present by invitation): I have had one case in which, at the operation it was found that rupture of the gall bladder had taken place some time previously, and gall stones were found within adhesions which had evidently been set up by irritation which followed or antedated the rupture, and passage of stones from the gall bladder into the peritoneal cavity. That is, the general peritoneal cavity was shut off by adhesions, and within the space so formed were confined several gall stones. These stones were removed, also several others which still remained in the gall bladder. The common duct was opened so that bile was discharged into the intestine through the normal channel.

I have no knowledge of how often rupture of the gall bladder occurs, neither do I know what the literature has to offer on the subject, but I think it must be rather uncommon, or we would hear more of it.

Dr. A. M. Cartledge: I would like to take exception to one statement made by Dr. Irwin; he said that he had six cases of gall stones under observation at one time, which is the greatest number he has seen. I dare say he has had twenty cases under his care at one time; we see

these cases every day, and are treating them for indigestion, etc. This occurs with the best diagnosticians, and it is not simply my surgical experience. I am sure gall stones are more frequent than we are led to believe.

As to the disproportion of cases of gall stones between the made and female: This is a well-recognized clinical fact. Tight-lacing has been regarded as a cause, and probably is one of the factors, but I suspect the sedentary life of women has more to do with it than tight lacing. The latest observations lead us to believe that the colon bacillus going up through the bile ducts into the gall bladder may excite such changes in the mucus as will lead to the deposit of bile salts and the formation of gall stones. The sedentary life of women would predispose to this. The proportion of cases occurring in the two sexes has been given by various writers as three women to one man. By others five women to three men. This has not been my experience. Out of twenty-seven operations upon the gall bladder I have encountered gall stones in men but three times—all the rest have been in women.

As to rupture of the gall bladder: In my experience it has been infrequent. I have seen but one case, and that was in the practice of another surgeon. It was a case recently operated upon where an old gentleman had a rupture of the gall bladder, with escape of its contents into the peritoneal cavity. A small stone was removed from the liver. I think slight leakage from rupture and over-distension in cases of empyema of the gall bladder is not so infrequent, giving rise to circumscribed peritonitis. This is the only way we can explain cases of rupture of the gall bladder where protective adhesions occur, because we know if the gall bladder were to rupture at once and empty its contents into the peritoneal cavity, a fatal peritonitis would ensue.

In regard to the treatment: I think experience will bear me out in the statement that the results of gall bladder surgery forms the most brilliant chapter in abdominal surgery of the present day. Operation upon the gall bladder is protective as well as curative. As long as the stones are confined to the gall bladder, and the patient has not passed into that stage where there is obstruction to the biliary passages, including the common duct, the operation is almost without mortality. It is the simplest, easiest and most perfect of any abdominal operation, and where it is performed early we may say that it is preventative, saving the patient the dangers of protracted calculus disease, with its complications.

Dr. T. P. Satterwhite: The foregoing remarks concerning the advisability of an operation where there are gall stones in the gall bladder brings up a very important question, viz.: when operation for gall stones is necessary. I recall two cases of gall stones in which I advised against an operation, and I do not know of any two persons who suffered more than they did during the paroxysms of pain incident to the discharge of gall stones. My advice in these cases was based simply upon the character of the stones; they were small. One of the patient passed nearly a tumblerful of calculi. None of them were larger than a small pea. While the stones were small, their passage gave rise to much pain; morphine and chloroform had to be administered. I told the patient that in any one of his paroxysms the gall bladder might completely empty itself of stones. One of the patients as well as the family clamored for an operation. I went so far as to have Dr. McMurtry see the patient, and he also urged against an operation. This case occurred in a young man. Another case was in a lady, a patient of Dr. Ouchterlony. She was sent to Europe, and never had any further trouble from gall stones. In this case also they were very small. These cases are evidently cured. I believe there are no more stones in the gall bladder. It is a question whether it is advisable to operate in all cases of gall stones.

TWO CASES OF GALL STONES.*

By W. O. Roberts, M.D.,

Professor of Surgery and Clinical Surgery in the University of Louisville, etc., Louisville, Kentucky.

Case I.—This specimen is a gall stone which I removed last week. A woman, aged fifty-eight years, had been having frequently recurring attack of colic for a year. For several months before I saw her the attacks had occurred every few weeks. She was quite fat; there had never been any jaundice, and I could not make out any distension of the gall bladder or any tumor; but there was a great deal of tenderness in the right side of the abdomen on a line with the umbilicus. I advised an exploratory operation, to which she consented.

Opening the abdomen I found that the gall bladder was not distended, and, feeling on the outside of it, I did not detect anything wrong; pushing my finger deep down I found this gall stone in the cystic duct. I then pulled the gall bladder up into the wound and incised it, and it was found to contain about a tablespoonful of very thick (almost black) grumous-looking bile. I had some difficulty in extracting this stone with a scoop. After removing the stone the edges of the gall bladder were stitched to the abdominal wall, and the patient put to bed in good condition.

The operation was performed at eleven o'clock in the morning, and that afternoon the dressing was saturated with bile, and there has been a free flow of bile ever since. It is now a little over a week since the operation was performed.

Case II.—Three days ago at the St. Joseph Infirmary I saw a woman about fifty years who had been the subject of frequent attacks of colic, and for two weeks had been deeply jaundiced. A short time before my visit a tumor could be mapped out in the region of the gall bladder. Doctors Anderson, Ouchterlony and Lucas had been in charge of the case, and the tumor was diagnosticated by these gentlemen as a distended gall bladder. A cholecystotomy was advised and I was invited to perform the operation.

The gall bladder, which was very much distended, was found to be freely movable, and after bringing it up into the wound I introduced an aspirator needle and drew off the bottle of fluid which I show you, about six ounces, as clear as spring water. After drawing off the fluid I made an incision in the gall bladder and found impacted in the common duct, not tightly, however, a stone, which I succeeded in dislodging by teasing it gradually from below. It was about the size of an army bean, rough and light in color, resembling in appearance a phosphatic calculus.

The gall bladder was stitched to the abdominal wall, a rubber drainage tube was introduced to the bottom of it, and by the side of this a piece of iodoform gauze.

The next morning when the dressing was removed it was thoroughly stained with bile. The flow of bile through the fistulous opening has continued and has been very profuse. The urine, which was very dark in color, has begun to clear up. The second morning after the operation the patient had an evacuation of the bowels of, I suppose, about a pint of fluid, which was perfectly white; it looked very much like chyle, showing that there had been no bile passing into the intestinal tract.

Since then she has gotten along uninterruptedly well.

MALIGNANT PAPILLOMA OF THE BLADDER.*

By August Schachner, M.D.,

Surgeon to the Louisville City Hospital, etc., Louisville, Kentucky.

The patient the subject of this report was referred to me from the country by Dr. Ganz. I saw him first at one of the hotels in this city. The man was, I judge, about sixty years of age, and had been operated upon when fifteen years of age for stone in the bladder. He had been suffering for a week or two with pain in the bladder and great difficulty in micturition. He was put under the influence of an aesthetic, and I explored the bladder thoroughly with a searcher, and without difficulty located a stone which seemed to be near the mouth of the urethra. I advised an operation, to which the patient readily consented. The bladder was opened supra-pubically and I removed some soft stones together with more or less incrustation around the neck of the bladder and about the fundus. In examining the interior of the bladder with my finger I detected a sessile growth near the mouths of the ureters which was quite brittle and tore readily. The bladder seemed to be contracted, the walls being hypertrophied. Most of this growth was taken out easily by means of the fingers and a spoon; the bladder was then irrigated and drained through the supra-pubic opening. Very little urine was secreted after the operation, although some was drained

*Reported to the clinical society and stenographically to this Journal by C. C. Mapes.

through the wound for two or three days. The man soon grew more or less comatose and died at the end of a week. During the last three or four days the wound sloughed and the amount of urine discharged was very little. I did not get a post-mortem examination, but Dr. Weidner examined the growth and pronounced it malignant papilloma.

REMARKS.

Dr. W. O. Roberts: I have operated upon three cases similar to the one reported by Dr. Schachner. One was an old gentleman, a patient under the care of the late Dr. Palmer, who had symptoms of stone in the bladder, and we thought we detected a stone with the sound. I did a supra-pubic cystotomy, and found a growth in the bladder, which proved to be a malignant tumor with a deposit of phosphates covering it. I removed a considerable portion of the growth; the man bled profusely and died in the course of four or five days.

I operated on another case three weeks ago, and found a condition not quite so serious as in the first case. This case was a patient of Dr. Anderson's. The man had had some trouble with his bladder for quite a while before I saw him. I used a sound in making an examination, and following withdrawal of the instrument there was considerable hemorrhage. He afterwards had to empty his bladder with a catheter once a day, and finally his condition became such that he had to use the catheter every two hours. Introduction of the catheter was difficult because of an enlarged prostate.

I made a supra-pubic opening three weeks ago, and found in the bladder an old blood clot which was thickly studded with phosphates, and around the neck of the bladder was a growth, the greater portion of which I succeeded in removing with forceps and the curette. He has gotten along since without any trouble. I still drain the bladder through the supra-pubic opening by means I have described frequently before this society.

I recently read the report of a case of this kind in one of our medical journals, where the growth filled almost the entire bladder, so that it became necessary to remove the bladder. The ureters were brought up and attached to the abdominal wall, and the man had to wear a special apparatus to catch the urine.

Dr. I. N. Bloom: We must differentiate between the two growths, papilloma and true carcinoma of the bladder. We may have a papilloma of the bladder which may not present any of the characteristics of malignancy; on the other hand we may have a true carcinoma. In removing papillomatous growths from the bladder the best method is to use a curette, afterwards applying the actual cautery. A villous degeneration may exist, which need not be necessarily fatal, nor need it be considered malignant. The blood clot and the deposition of various salts were probably secondary to the existence of the papillomatous condition, and this is undoubtedly what the doctor felt when he introduced the sound. I doubt whether the calcerous deposits which sometimes occur in these sessile growths are often detected by means of the sound. Of course, the existence of a stone always in the same place, no matter what position the patient assumes, would enable us to diagnosticate encysted calculi from whatever cause where they are formed on the walls of the bladder.

Haematuria is usually associated with papillomatous growths, and the diagnosis has been confirmed by finding shreds in the urine, which, when examined under the microscope, shows their true nature.

Dr. Carl Weidner: From the examination I made of the specimen sent me by Dr. Schachner, I gave it as my opinion that the growth was undoubtedly carcinomatous in character. The fragments show distinctly a small center only of connective tissue, and the balance is made up of the characteristic cancerous arrangement of the epithelial cells. A great amount of the mass is blood.

Dr. W. C. Dugan: Malignant papillomata of the bladder are usually attended by severe hemorrhage, and the character of the growth may be such as to endanger the patient's life if removal is attempted by any method. We have to give up operative interference. I simply want to make a statement as to the advisability of permanent drainage as a curative measure in such cases. I reported a case to this society some time ago, where the man had bled until he was in a condition of syncope—so weak that he could not stand up. I opened the bladder and found a tumor, or I may say tumors, occupying the entire trigone, whose character was such that I hardly felt justified in attempting removal. I put a "T" drainage tube into the supra-pubic wound, telling his friends that he would probably die soon of slow bleeding, but to our astonishment he bled no more and finally became entirely well and is well to-day. Now here was a man fifty-six years old who had bled from his bladder for months, so that when he passed his urine it looked not unlike pure blood. His mucous membrane looked bloodless and he could not stand. He had been given up to die. An operation was advised and accepted. The high operation was performed and the base brought into view, and the blood could be seen to ooze out from the diffuse papilloma. To attempt the removal of the tumor under such circumstances we did not feel was justifiable, so we drained and kept the bladder contracted and he bled no more. We are told a contracted uterus cannot bleed. May the same not be said of the bladder?

FRENCH MEDICAL SOCIETIES.

MEDICAL SOCIETY OF ISERE.

Treatment of Gonococcic Ophthalmia by Protargol—M. Deschamps.—The patient, aged 20 years, attacked for the first time by gonorrhoea; on the sixth day the left eye was inoculated, and 48 hours after the beginning of the disease the eye presented all the signs of a very acute and formidable ophthalmia. At the beginning recourse to protargol alone was feared, and bathing the eye with lotions of the nit. of silver, 1-40, four times in 48 hours, was used. There was slight improvement; the nitrate was then replaced by protargol, but it was manifest that the disease made progress, and the nitrate was renewed, with rapid improvement of the condition. Protargol repeated a few days after, when the virulence and abundance of the secretion had diminished, and continued without interruption. The lesions of the cornea fortunately were not grave or profound, and it was evident that the protargol did not produce the bad effects of the nitrate, the cornea not being scarred. From this case it appears that at the most acute period the nitrate was manifestly more active than the protargol, but the latter was very useful and of great service later on by saving the patient painful scarifications and giving protection to the cornea. In effect the ulcerations are healed remarkably, with no marked opacity, perforation of the cornea or incrustation of the indelible argentine salt, as is frequently observed in such cases in which the imminent danger compels the use of the caustic.

ACADEMY OF MEDICINE.

Surgical Treatment of Acute Mastoiditis.—M. Garnault repeated an operation upon a young girl who had been operated upon previously by the method of Schwartz. The exterior wound had not healed, and there was a constant discharge of fetid pus, requiring frequent dressing: the patient complaining of constant violent pain in the head. After the new operation, which consisted of opening the osseous canal after detaching the membranous canal, the exterior cicatrization was complete in eight days, and in six weeks the interior canal had healed.

CLINICAL REVIEW AT THE HOTEL DIEU OF LYONS.

Albuminous Osteo-periostitis Due to a New Pathogenic Agent.—MM. Xavier Delore and Pehu.—In the clinic of Prof. Poncet a case of albuminous osteo-periostitis was observed, in the serosity of which a pathogenic agent was found, seen only once before by M. Dor, chief of the clinical laboratory. Because of the rarity of this fact it was thought to be useful to report it, and the following is the clinical observation. Patient, 16 years old and a tiler, was attacked by a furuncle on nucha in December, which soon developed anthrax, painful and requiring a month for its evolution. The beginning of the affection for which he entered the hospital occurred three months previously: felt pain at lower portion of left thigh, above the articulation, also vague articular pains in ankles, but of short duration. He was compelled to abandon his work, and took to his bed. Mercurial ointment applied, pains continued, and on his arrival at hospital an examination revealed a tumefaction at the point indicated, with fluctuation, skin red and tender, and movements of the joint normal; no increase in size of the synovial culs-de-sac, slight glandular engorgement in left groin, temperature 38.5°. Surgical interference

agreed upon, and on June 8 M. Delore made an opening, giving issue to a collection of sero-albuminous fluid containing numerous shreds and fungi. The sac extended from middle of the thigh to the popliteal space. The periosteum of the external portion of the bone was thick, swollen and white and covered with fungi, and with another collection similar to the preceding and surrounding the bone, which last trepanning showed to be red, vascular and inflamed to some extent, as the periosteal inflammation, above which the marrow was normal in appearance, there were also large periosteal protuberances. Curettage and drainage; plaster apparatus. Culture of fluid in bouillon and gelatine revealed round colonies, transparent, yellowish, resembling those of staphylococcus. On coloration small, short bacilli like those of Loeffler appeared in bouillon and gelatine, each constituted of pale protoplasm with colored granulations, some round, others ellipsoid. Sections of the fungous formations showed neither these bacilli nor staphylococci nor streptococci. The principal point of interest of this observation is in the bacteriological proofs established. In effect the microbic production of albuminous osteo-periostitis and the chemical course of the affection are well known; also it should be remembered that in the large majority of cases the evolution of the disease is by a slow infection. Etiologically we are nearly in accord; different microbes have been found, among others the staphylococcus pyogenes aureus, albus, and the bacillus of Koch. In 1894 M. Dor discovered in a periosteal collection of a serous nature a special microbe producing colonies of a yellow citron tint, of waxy consistence, and liquefying gelatine. By inoculation he reproduced osseous lesions in rabbits, resembling the principal characters of albuminous periostitis. In the present case the small microbe was in a serous fluid, and its exclusive presence caused the presumption that it was the factor of periosteal lesions. This is an additional argument in favor of the idea of a polymicrobic origin of albuminous periostitis. The same opinion is now classic, embracing Manclair, Le Dentu and Delbet, Prof. Poncet, Duplay and Reclus. The point of introduction of the pathogenic agent was most probably the furuncular eruption by which the patient was attacked. The diagnosis of the sero-albuminous nature of the collection was not made, as is the rule in observations of this kind. Albuminous osteo-periostitis being generally characterized as only an attenuation of ordinary osteo-myelitis, it is readily understood how difficult it is to differntiate ordinary osteo-myelitis from tuberculous osteitis.

Vomiting in Bronchial Infection.—As there is only one method of diminishing intestinal fermentation by purgation, so the best way to diminish bronchial fermentation, according to M. Albert Robin, is to empty the bronchial tubes. In other words, vomiting is the therapeutic agent for bronchial fermentations and infections as purgation is for intestinal fermentations and infections. Vomiting responds to many of the indications of acute and chronic bronchial infections. Ipecac is particularly efficacious in pulmonary hyperemia in the beginning, and the repletion and obstruction of the bronchial tubes by pus at another period of the disease. It modifies the pulmonary circulation by its action upon the vaso-motor system without vomiting, and its arrest of hemoptysis is a sufficient proof. Then, as an anti-congestive ipecac is indicated at the beginning of broncho-pneumonia; moreover, the vomiting meets another indication, that of emptying the bronchial tubes. M. Robin has had many opportunities of proving the happy effects of vomiting in the treatment of bronchial infection, so frequent among the old, and he insists upon the fact that old age is not a counter-indication, as is supposed, and in the broncho-pneumonia of the old, the treatment by vomiting is perfectly justifiable without fear of collapse or of cerebral hemorrhage. Then in all cases in which there is a bronchial infection, whether acute or chronic, M. Robin advises recourse to vomiting as a curettage of the bronchial tubes, and also constitutes a powerful agent of oxidation. It is moreover one of the most active means we possess of getting rid of microbic toxines. After the administration of the ipecac or antimony in emetic doses, the temperature falls from 1 to 2 degrees, declines progressively, dyspnoea ceases, expectoration diminishes. Then give ipecac in combination with antimony as an expectorant, belladonna and aconite as bronchial desiccators to dry the mucous membrane.

Hemorrhage in Diphtheria—M. Ch. Guyotte.—It is well known that the prognosis of diphtheria when accompanied by hemorrhage is especially grave. Thus in 15 cases in which there were various hemorrhages, M. Guyotte observed 13 deaths and 2 recoveries, a mortality of 86.6 in 100. It is not at all certain that, of themselves, these hemorrhages are formidable, apart from some rare exceptions. But to the toxic accidents, which would rapidly disappear through the action of antidiphtheric serum, accidents of infection are superadded. Then, not only would the serum of Roux have a very limited power, not only would other methods of treatment, such as artificial serum, local antiseptic baths, etc., be of relative efficacy, but there would be a constant fear that the patient would become subject to many septic complications—otitis, adenitis, cervical phlegmon, purulent foci of the mediastinum, pleurisy, and above all, broncho-pneumonia, against which the enfeebled organism could offer but little resistance. While there are forms of diphtheria benign and mild in appearance, in which there is sometimes slight epistaxis, other grave clinical forms are often met with whose complex bacteriological nature has been demonstrated, and called associated. These hemorrhages present various manifestations. The skin, mucous membranes and viscera are in turn the elective localities. Upon the skin there appear spots of purpura, general, or simply local upon the limbs, around the punctures of seric injection, or where dry cups have been applied. Most frequently they succeed an erythema, which soon assumes a purpuric appearance. Upon the mucous membranes they show themselves by a dark colored sanguineous infiltration of false membranes, by ecchymoses of the pharynx, arch of the palate, tonsils, by a bleeding surface, a more or less abundant sero-sanguinous discharge, by epistaxis often repeated. Among the viscera there are hemorrhagic points upon the brain, ecchymotic spots upon the lungs (when there is no broncho-pneumonia), upon the pleura, the spleen, supra-renal capsules, oesophagus, trachea, larynx, heart and aorta. From a pathological point of view these hemorrhages are due to an increased vitality of the bacillus by a simultaneous infection (microbic associations), and most generally by a streptococcic infection coinciding with that from the presence of the diphtheric bacillus. In these forms more than in others it is necessary, besides the employment of the serum of Roux, to utilize antiseptic applications to combat the local infections and to stimulate the nervous system and the functions of elimination by all possible means.

The Chlorhydrate of Cocaine, and Its Solutions.—M. C. Jonas (of Brussels).—The following are a few personal observations made of these solutions, and their preservation. First solution:

Chlorhyd. of cocaine.....	0.25 centigr.
Distilled water.....	10 gr.

Keeps clear for four days; on the fifth day solution becomes charged with a very abundant magma. Second solution:

Chlorhyd. of cocaine.....	0.25 centigr.
Pure glycerine.....	1 gr.
Distilled water.....	9 gr.

Keeps clear for five or six days and ferments, but more slowly than the preceding solution; magma less abundant. Third solution:

Chlorhyd. cocaine.....	0.25 centigr.
Boric acid.....	0.15 cent.
Distilled water.....	10 gr.

Keeps clear longer than preceding; magma less intense. Fourth solution:

Chlorhyd. cocaine.....	0.25 centigr.
Crystallized phenic acid.....	0.01 cent.
Distilled water.....	10 gr.

Solution remains clear and unfermented for an indefinite time; no magma. Fifth solution:

Chlorhyd. cocaine.....	0.25 centigr.
Salicylic acid.....	0.01 cent.
Distilled water.....	10 gr.

Solution continues perfectly clear; no fermentation after two months' observation.

Hyperesthesia of the Stomach.—M. A. Pick.—Under the name of hyperesthesia of the stomach is designated a condition in which the gastric mucous membrane presents an exaggerated irritability while under the influence of chemical, mechanical or thermic excitants without any alteration of texture to account for the abnormal sensibil-

ity. What characterizes this condition is that when it is empty the stomach gives no sensation of pain; the troubles depend directly upon the ingestion of food. Hyperesthesia of the stomach is not an attenuated degree of gastralgia. From its nature it may likened to a cuteneous hyperesthesia; may have all the characteristics of the varieties of sensibility of the mucous membrane, or only some of them, for example, the sensation produced by cold food; very often the thermo-hyperesthesia is accompanied by the sensation of mechanical irritation. The ingestion of solid food or of liquids gives rise to pain, which may provoke vomiting. A third form of hyperesthesia is that following acids; a special form, for example, chlorhydric acid. In this may be observed all the clinical symptoms of hyperchlorhydria, but the direct examination of the gastric liquid shows the normal acidity. It is not rare to meet with hyperesthesia from the fatty acids. As respects the etiology of gastric hyperesthesia, the following factors are frequently observed: old gastric affections of long duration, effects of the emotions, chlorosis, neuroses, excesses in the indulgences of the table, etc. The principal symptoms of the affection are, pain, eructations, pyrosis and vomiting, the pain occurring immediately after the ingestion of food, and disappearing after vomiting; may be relieved also by the use of alkalines, and sometimes by faradization of the stomach. The pyrosis is occasionally a localised sensation in the stomach or in form of a contraction in the stomach or oesophagus. A characteristic of the vomiting is that liquids are vomited more than solids, and the composition of the vomited matter is variable, and the chemistry of digestion is generally normal. The diagnosis should be based particularly upon the normal nature of the evacuations of the stomach. It may be remarked also that liquid aliments provoke more pain than solid. The differential diagnosis will be with simple ulcer of the stomach. Treatment: Have recourse to all the agents that are effective in the treatment of neuroses generally—hydrotherapy, food regular and appropriate to the symptoms, faradization with a large plate upon the stomach and another on lower abdomen, an intense ascending current of several minutes' duration, occasional gastric douche; also treatment by psychic methods; especially suggestion as respects remedies. They play a secondary role, but menthol or cocaine in small doses may be employed. The sensation of heat may be soothed by alkalines, especially magnes. calc.

Massage of Hypertrophied Tonsils.—M. Kantrowicz has successfully employed direct massage to the tonsils in a number of cases for which operation was refused. Following is his method: The hand is carefully disinfected previously. The index finger is then introduced into the mouth on the affected side as deeply as possible. The tonsil is pressed circularly by the pulp of the finger 15 or 20 times in order to evacuate the contents of the lymphatic spaces. This done, the finger is applied directly upon the tonsil intermittently for several times, and by doing this with some force pharyngeal reflex is avoided. Let there be an interval of several seconds after each series of three or four frictions or pressures, and applying massage to one tonsil, apply the same to the other. Every application causes a flow of saliva and tears, which decreases as the patient becomes accustomed to the operation. By a daily repetition of this treatment the volume of the tonsils is diminished in 15 days.

Digestion of Fish Bones and Small Bones.—M. R. Faber reported the history of a peasant of 59 years, who for a long time suffered from diarrhoea and abdominal pains. One day he passed a number of fish bones; intestinal injections brought away more than 1,500. This was followed by cure. M. Faber reported other similar cases. The normal secretions of the stomach can, thanks to chlorhydric acid, digest small bones. The pancreatic juice has not the same action. Experience has shown that in certain individuals who seem to possess the normal gastric function, bones pass through this organ without being digested. This is the rule among persons whose gastric secretion is at fault. The undigested bones often accumulate in the caecum or rectum and form a large mass which provokes chronic diarrhoea and hemorrhages. According to M. Faber, in the vertebrata the chlorhydric acid of the gastric juice has the special function of digesting osseous tissue; in fact, this digestion can only be accomplished by the existence of chlorhydric acid. The digestion of other aliments can be effected in the absence of this acid.

Reduction of Strangulated Hernia by Collodion.—Dr. Schliep-Stettin.—Applications of collodion are effective in reducing strangulated hernia, and will often succeed in cases in which ether profusely applied to the tumor is without effect. Dip a thin layer of wadding as large as the hand in collodion and apply to hernia, the parts being previously shaved; keep the wadding saturated with the liquid. By the uniform compression made by the collodion, united with the refrigerating action of the ether which it contains, reduction will be easily obtained in almost every instance.

Treatment of Whooping Cough.—Dr. Dutremblay treats whooping cough by inhalations of oxygen charged with medicated vapors. Ten grams of bromoform and ten of cherry-laurel are mixed with same quantity of bromide of camphor in powder. With the ordinary oxygen apparatus the patient receives inhalations of medicated vapors. Children inhale 50 liters of oxygen daily, 12 in the morning, same at 12, 4 and 8. The apparatus thus prepared will serve four days, and by this process the number and intensity of the paroxysms is diminished, complications averted and force of resistance of the organism increased.

Unconscious Delivery.—M. H. Baley reported the following case: On Feb. 8 a young woman, 23 years, and a primipara was taken in labor; pregnancy absolutely normal. Pains continued for several hours moderately, becoming stronger. On examination the child was found between the legs of the mother, the head submerged in amniotic fluid, no respiration, no movement. A warm bath and alcoholic frictions upon the vertebral column soon restored vitality. The mother was more surprised than I; she had felt only something pass from her like water, and the pain at the time was not greater than those preceding. No rupture of the perineum; child born at term; healthy and of usual weight. This case is not unique of its kind, as others analogous have been cited, but its chief interest lies in the fact that a jury might be disposed to regard it as a possible case of infanticide.

Eruption Due to Taking of Benzoate of Soda.—MM. Nicolle and Halipe.—Eruptions following the administration of benzoic acid and its salts are rare and but little known, which gives interest to a case of pulmonary complication resulting from grip in which this drug was used, with subsequent appearance of an eruption. For a very abundant bronchial expectoration the benzoate of soda was prescribed, dose one gram in 24 hours; no accident on first day. A few moments after taking the third dose there was slight itching on dorsal face of wrists and elbows, after which the eruption appeared, and attained its maximum of intensity in a few hours. The administration of the drug was stopped at once, and the eruption was localized on the points at which it appeared. The points were: The dorsal face of the wrists, back of the hands, olecranon region of elbow, knees over the patella, dorsal face of foot immediately below the tibio-tarsal articulation. Eruption characterized by erythematous spots and slightly projecting papules of same nature entirely effaced by pressure and reappearing when removed; not visible on third day, and no consecutive desquamation.

Incoercible Vomiting of Pregnancy—M. Gustav Klein.—It is known that M. Kaltenbach considers the vomiting of pregnancy as a manifestation of hysteria. M. Alfred regards it as a neurosis which is very often, not always, of a hysterical nature. After passing in review the majority of works relating to this subject, M. Klein gives the result of his personal experience. He thinks that the vomiting may have as its provoking cause neuropathic troubles of non-hysterical origin, and that the therapeutic treatment of this accident of pregnancy should occupy but a very limited space. Indeed, medical treatment should always be avoided as it is capable of producing additional bad effects. Diet and absolute rest have an efficacy at least equal to that of remedies so-called. He has recourse to local treatment only in particularly grave circumstances, and recommends abstinence from all intervention in slight affections of the genital organs for fear of exciting the nervous system. The course adopted by M. Klein may be summed up thus: Upon the first appearance of vomiting the patient should have an exclusively liquid diet from which all alcoholic drinks are rigidly proscribed, and if need be, tea and coffee. Confinement to bed, which the patient should not leave for an instant upon any pretext whatever until three days have passed without vomiting. She should also be isolated in order to insure perfect repose of the nervous system. Should there be no improvement at the end of a week the physician should speak

before the patient of the necessity of placing her in a "maison de sante," which should be done without delay, admitting that in grave cases, accompanied with fever and the appearance of blood in the vomited matter, one is obliged sometimes to practice artificial abortion, an operation which M. Klein considers very dangerous. He thinks that even in these conditions the treatment he advises offers certain chances of success, and should be tried if the strength of the patient will permit.

Elimination of Fat by Sudoriparous Glands.—M. Unna is astonished that the elimination of fat by the sudoriparous glands is not admitted by a number of anatomists and dermatologists. The diversity is due to errors of microscopic technique. If the method recommended by Unna is exactly followed, one will be surprised to see how great is the proportion of fat contained by the sudoriparous glands. Moreover, the large cutaneous arterial trunks also contain fat in notable quantity, and the functions of the skin, as respects the elimination of fat, should consequently be regarded in a new light. There is no need for insisting upon the great importance of the facts presented by Unna respecting the interpretation and treatment of many of the dermatoses. It is probable that soon Unna will give us the result of his practice upon this point. (*Deutsch. Med. Zeitung.*)

Urticaria Produced by Antipyrine.—M. Roonitzky presented a case of urticaria produced by a small dose of antipyrine. It occurred in a man of 28 years, neurasthenic and belonging to a neuropathic family. He was attacked a few days previously with nervous headache, and the following powders were prescribed, three to be taken daily. Antipyrine, 0.30 gr., nitrobenzoate of cafeine, 0.gr.12 in each. Fifteen minutes after the absorption of the first powder he presented the following symptoms: The face and hands were swollen with large spots of erythema, and a sensation of burning in the mouth. Powders suspended at once, and patient's condition changed at once; the urticaria continued slightly. Two days after antipyrine pure was repeated, and in five minutes after taking the first powder the urticaria reappeared, accompanied by the preceding symptoms. Supposing that these accidents were caused by the antipyrine, Dr. Roonitzky completely abandoned the analgesic remedy, and the condition of the patient was speedily improved, and in a short time all the accidental symptoms had disappeared. He believes that the effects following the absorption of antipyrine were due to a reflex action of the remedy, and that it produced a ropho-neurosis of the skin by reflex. (*Jour. de Med. Prat.*, Russia.)

Urticaria with Cutaneous Hemorrhages.—M. Stein.—The simultaneous appearance of ecchymoses with urticaria is not a new fact, but the relations that exist between the two morbid phenomena are not, as yet, clearly defined. In such a case there is a tendency to regard the urticaria as an accidental complication of the sanguineous effusion of the skin, contrary to the opinion given out by dermatologists. M. Stein recently observed an instance of urticaria with cutaneous hemorrhage in which the eruption undoubtedly was the primitive element. The case was that of a woman of 40 years, anemic, with no pulmonary, renal or cardiac lesion, who in consequence of an attack of indigestion, had upon her thighs and legs a large number of phlyctenae, some of which were as large as the palm of the hand. The eruptions were surrounded by a hyperemic zone intensely red and attended with violent itching. Here was a complete dermographism. Slight scratching of the skin with the nail immediately caused the appearance of a phlyctena at the irritated point. There was oedema of the malleoli, though the kidneys were healthy—no albuminuria—and the heart also. By treatment, directed against the gastro-intestinal troubles (purgative, chlorhydric acid, and resorcin), the eruptions ceased. Before disappearing, the ecchymoses passed through all the modifications of color peculiar to them, becoming successively green, yellow and finally brown. The disease was undoubtedly urticaria of gastric origin.

Massage in Cutaneous Diseases.—M. Marx.—In numerous affections of the skin, massage gives proofs of being valuable. According to Hatschek, in the clinic of Prof. Kaposi of Vienna, massage is a valuable curative agent in prurigo that resisted all medical treatment. It consists of energetic centripetal applications upon the limbs exclusively, which are continued for 10 or 15 minutes. With the disappearance of the pruritus of the limbs the cutaneous lesions of all parts of the body are rapidly cured, and if sometimes the cure is not perfected, there is always a great improvement in the condition of the patients. In acne of the face, Dr. Pospelow, Professor of University of Moscow, resorts successfully to this practice twice a day, morning and evening. In varicose ulcers massage, practiced systematically, can, in the absence of all local medication, produce rapid cure. A Russian military physician, Dr. Bekarievitch of Moscow, obtained complete and rapid cures in four-fifths of 264 cases—a compress bandage was applied after each massage. Dr. Erdinger, of the French marine, advises the following method of massage. After complete disinfection of the limb of the patient and the hand of the operator, make the movements of massage with the extremities of the fingers, previously dipped in borated vaseline, at first upon the upper part of the leg above the ulcer, then on the side of the wound. The movement, always centripetal, are practiced upon the lateral and lower parts of the ulcer. Proceed afterwards with energy proportioned to the degree of induration of the borders of the ulcer, do the same below. When the bottom of the ulcer is grayish, torpid, sanious, Erdinger advises massage to the ulcer itself. For this, cover it with linen dipped in borated vaseline, and make gentle massage over the dressing. Applications should be made daily at first, and as the ulcer improves, should be gradually withdrawn. The cure is effected in from 13 days to 2 months according to the extent of the ulcer, the patient pursuing his usual occupation. J. A. C.

CORRESPONDENCE.

DIED LATELY IN HOLLAND.

Dr. Gardner Quincy Colton, through whose instrumentality "nitrous oxide gas" was first used in dentistry, died Aug. 9, 1898, in Rotterdam, Holland. He had been on a visit to Europe, and was about to return home when he succumbed to a complication of diseases, brought on by old age.

Dr. Colton was born in Georgia, Vt., Feb. 7, 1814, and was the twelfth child of his parents. He first learned chair making, and when twenty-one years old came to New York, where he followed his trade, studying all the time, however, in the hope of becoming a physician. In 1842 he entered the College of Physicians and Surgeons, and later studied in the office of the late Dr. Willard Parker.

Two years after he began to deliver lectures on physiology and chemical phenomena. He had acquired a knowledge of electricity, a science then in its infancy, and invented an electric motor, which he exhibited, illustrating his lectures with it. This motor is now in the Smithsonian Institute in Washington.

Dr. Colton went to California in 1849, where he searched for gold and practiced medicine among the miners. He was the first man in California to be appointed a justice of the peace. With a competence he returned to the East and went about the country lecturing, telling his audiences of the anaesthetic properties of the laughing gas. In 1863 he established an office in the Cooper Institute. A few years later was able to visit Paris with a record of 20,000 administrations. Returning to America he opened offices in Philadelphia, Boston, Baltimore and several other cities, and thus through his energy and success the use of nitrous oxide gas as an anaesthetic became thoroughly established, and dentists throughout the length and breadth of the land began to use it, and it dates from the rediscovery in 1863.

Away back in 1844, when he was lecturing in Hartford, Conn., and showing the effects of nitrous oxide gas on persons to whom he administered it on the stage, Dr. Horace Wells, who became one of his subjects, was impressed with the possibility of using the gas in dentistry. He told Dr. Colton of his idea, and the next day he had the gas administered to him and a tooth extracted.

Dr. Colton was also an author and a Shakespearean scholar. He published a brochure on Shakespeare and the Bible, and wrote a good deal upon the discovery of anaesthesia. C. S. McNeille, D.D.S.

To the Editors of MEDICAL TIMES:

I have read in the October number of the MEDICAL TIMES the poem "A Physician's Prayer." I am sure that the really good physician should at least respect religion even if he cannot love it. The bravest men I have met in life have been the tenderest, and actuating them in deeds of courage and benevolence was always to be found a simple, manly belief in God's mercy through the Saviour. Soldiers in the army, sailors at sea, frontiersmen and men of genuine courage everywhere I have found to be real and practical Christians, not the make-believe kind, not those who think "when they are dismal they are pious!" but men we are glad to meet, and who in moments of suffering and solemn trial can behave like Christian gentlemen. Such a man was Sir James Y. Simpson. I never had the pleasure of seeing him, but I can form some idea of the character of the man by his writing, and although he wrote much which was learned and very scientific, he also wrote a little poem which has been a comfort to many since he who penned it has gone beyond.

If we will only heed its teachings and cling to the Arm which is stronger than ours, we will find our lives happier and more useful to others. This is the poem:

STOP AND THINK.

Oft 'mid this world's ceaseless strife,
When flesh and spirit fail me,
I stop and think of another life
Where ills can ne'er assail me.

Where my fleshless arm shall cease it's fight,
My soul shall cease it's sorrow,
And the dark night shall change for the light
Of everlasting morrow.

On earth below, there's naught but woe,
Even mirth is gilded sadness.
But in Heaven above there's naught but love
With all its joyful gladness.

There till I come waits me a home,
All human joy excelling,
And there at last when life is past
I'll find a regal dwelling.

There shall be mine through grace divine
A life which has no ending;
Which my soul's eye would fain descry,
Though still with clay 'tis blending.

And Saviour, dear, while I tarry here,
Where a Father's love hath found me,
Oh, let me feel through woe and weal
Thy guardian arm around me.

M. D.

To the Editors of MEDICAL TIMES:

"Anno" is not altogether pleased with the criticisms and emendations which Dr. Swayze, in an attitude of kind condescension, is led to inflict upon his lines, and declines to accept the corrections which he makes. He is glad to know that Dr. Swayze finds no objection to a "Christian physician" expressing his emotions in rhythmical form, and that he, "Anno," is guilty of no offenses against professional propriety in making an attempt to do so. But "Anno" prefers to revise his lines himself, right or wrong, as he long since did, as appears below. He will preserve the sense and meaning, at least, if not the rhyme and rhythm. Respectfully, "ANNO."

Oct. 5, 1898.

A PHYSICIAN'S PRAYER.

I.

A contrite heart, a humble mind
I bring, O Lord, to Thee;
Renouncing sin of every kind
In all sincerity.

II.

I know wherein I err, O God,
No plea have I to make;
Scourge me with Thy chastening rod
Till I the wrong forsake.

III.

Lord, I would Thy commandments keep,
No laws of Thine defy;
Help me to climb the craggy steep
Where truth and duty lie.

IV.

When trials and temptations force
Unholy thoughts in me,
O may I not forget the source
Of grace and charity.

V.

I ask Thee not for daily bread,
For profit, fame, or place;
But will to work and wait, instead,
The leaven of Thy grace.

VI.

Grant me, I pray, the gift to heal
And help the woes I see,
Wisdom to serve the common weal,
And all for love of Thee.

VII.

Thy love, Thy truth, Thy excellence,
Give Thou, O Lord, my meed—
Thy bountiful beneficence,
According to my need.

VIII.

Thy gracious help to me impart
To walk in wisdom's way;
Give light to me to do my part,
And guide me day by day.

IX.

To precepts of the wise and strong
Do Thou incline my heart;
Grant me courage to fight the wrong,
And strength to take my part.

X.

And when I die and go to Thee,
No evil need I fear;
Thy love shall still my refuge be
In Thy supernal sphere.

These lines came to the writer during a sleepless early morning hour. He had retired late, and could not sleep. By and by his thoughts took on an emotional, reverent turn and became rhythmical. On and on they went, until finally he was forced to rise and write them out, after which he slept.

January, 1898.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

Warm Baths in Broncho-Pneumonia.—M. Desmons in *American Journal of Obstetrics* (*Maryland Med. Journal*, 1898) favors the plan of treatment advocated by Lemoine, of giving warm baths as soon as the lungs show the slightest symptom. Attacks are frequently aborted by this method. In severe cases he gives a warm bath every three or even every two hours. Lemoine says that as soon as the patient has crepitant rales and a little elevation of temperature, the warm baths should be administered as a matter of routine practice. The baths are given at a temperature of 95, to which is added about eight ounces of mustard meal, and prolonged for about ten minutes, and are repeated every two or three hours until the general condition is good. Desmons has found this plan especially serviceable in cases occurring after infectious diseases, such as measles, etc.

Sweet Oil Treatment of Typhoid Fever.—Dr. Owen F. Paget states in the *Lancet* (Nov. 27, 1897) that during his residence in Freemantle, Australia, he had attended over a hundred cases of typhoid fever, many under most disadvantageous circumstances, and did not lose a case. Among those patients removed to the hospital and treated in the orthodox way, there was a mortality of twenty per cent. in one year, and eleven per cent. in another. He

gave sweet oil, in the form of an enema, every twelve to twenty-four hours during the first four or five days, about half a pint at a time. After the fifth day the injection was given every two days, or discontinued entirely if the temperature was steadily falling and the patient had a normal movement every day. Sometimes the oil was given by the mouth. In the closing paragraph he says, "Salad oil, one pint by the mouth and a half pint per rectum, has also given the most gratifying results in two cases of typhilitis under my care." "The results here detailed," remarks the editor of the *Post Graduate*, "are among the best thus far recorded in the treatment of this disease. If confirmed in the hands of other observers a great advance will have been made."

Remedy for Rigid Perineum.—In rigid perineum Dr. Southworth says that "he who tries the following will never be without it. I consider it indispensable and infallible:

℞ Chloroform..... ℥ ij
Ether sulphuricum..... ..... ℥ j
Cologne spts..... ℥ j
Misce. Sig.—Apply locally."

He further says. "It acts quickly and well. I have had large heads pass perineums which seemed impossible without extensive rupture, without the beginning of a tear even, when this preparation was used."

Intestinal Obstruction Treated by Electricity.—Mingour and Bergonie (*Edin. Med. Jour.; Post Graduate*) record the case of a child five and a half years old subject to habitual constipation, which eventually developed signs and symptoms of intestinal obstruction with fecal accumulation. Purges and enemata were given for seven days without result. Patient wasted and collapsed. An inguinal hernia, which had been present four years, was found normal and not strangulated. Recourse to electricity was had, one pole being introduced into the rectum. The current was gradually raised, and after three minutes, with one or two interruptions, a mass of fecal matter, amounting to about three pints, followed, leading to the immediate recovery of the patient. One subsequent attack has necessitated electrical interference.

Treatment of Tuberculous Anenditis of the Neck by the Roentgen Rays.—Hendrix (*La Policlinique*, May, 1898) gets encouraging results from Radiography in scrofulous glands. When the latter are fused together, and before caseation has taken place, the rays seem to isolate them—they become mobile, smaller and firmer. If, however, caseation has begun, the rays have a distinctly irritating effect, and will aggravate the disease, and are contraindicated. Author seems to believe that the rays destroy the bacillus, but apparently made no attempt to verify his theory by excision.

Irrigation of the Bowel in Eclampsia. — Prolonged irrigation of the bowel with a normal salt solution has been used with brilliant success in the treatment of acute anemia, of eclampsia, and of other conditions in which intravenous infusion or hypodermoclysis has usually been employed, says Dr. Charles Jewett, in the *Brooklyn Medical Journal*. Grandin, Kemp, and Dawbarn, of New York, have reported remarkable results from continuous irrigation of the bowel with the salt solution at a temperature of 120 degres F. or higher. As a diaphoretic and a diuretic it is believed to surpass all other methods. The injection is given through a double current rectal tube. The quantity of solution must be large; not less than 10 to 20 gallons are frequently used. Sene (*Jour. de Med.*, Jan. 10, 1898) reports a case in which the patient was rescued from an apparently hopeless condition by this means. The patient was a woman, the subject of a violent eclamptic attack in the seventh month of utero-gestation. Venesection was followed by arrest of the convulsions, but the woman sank into deep coma and the urine was totally suppressed. Bowel irrigation with tepid water was then practiced for a half hour. Twelve hours later the patient had begun to rally from the stupor. A little later a small quantity of urine was passed. On the following day the coma had entirely subsided and the kidneys were acting freely. The woman was delivered on the fourth day after the eclamptic seizure and made a prompt and complete recovery.

A Striking Instance of Maternal Impression.—Gardiner (*Amer. Jour. of Obstet.*, February, 1896) gives an instance of maternal impression which is no less striking than it is well authenticated. An American woman had, during her third pregnancy, an unbearable craving for sunfish. During the fourth month her husband brought home for her some of these fish alive in a pail. She stumbled against it on the porch, and one of the fish flopped over the edge of the pail and came in contact with her leg. It sent a cold chill through her, but the pregnancy was not disturbed, and nothing further was thought of the accident until the child was born, when, to her surprise, a nevus in shape and size olosely resembling a fish was seen upon the leg of the baby in the part corresponding to that of her own leg with which the fish came in contact. Otherwise the child's health was perfect, and she grew up into a healthy woman. The annoying craving for sunfish which was temporarily present in her mother existed in her throughout a long life. It much resembled a drug habit. Time and again she has eaten sunfish until from repletion she has vomited, and then again has eaten them with unabated appetite.

RETROSPECTIVE DIETETICS.

High Feeding as a Cause of Increased Cancer Mortality.—In connection with the facts that in England the proportionate mortality from cancer now is four and a half times greater than it was half a century ago, and that no other disease can show anything like such an immense increase, W. Roger Williams, F.R.C.S. (*Lancet*, Aug. 20, 1898), says: Probably no single factor is more potent in determining the outbreak of cancer in the predisposed than high feeding. There can be no doubt that the greed for food manifested by modern communities is altogether out of proportion to their present requirements. Many indications point to the gluttonous consumption of meat, which is such a characteristic feature of this age, as likely to be especially harmful in this respect. Statistics show that the consumption of meat has for many years been increasing by leaps and bounds, till it now has reached the amazing total of 131 pounds per head per year, which is more than double what it was half a century ago, when the conditions of life were more compatible with high feeding. When excessive quantities of such highly stimulating forms of nutriment are ingested by persons whose cellular metabolism is defective, it seems probable that there may thus be excited in those parts of the body where vital processes are still active such excessive and disorderly cellular proliferation as may eventuate in cancer. No doubt other factors co-operate, and among these I should be especially inclined to name deficient exercise and probably also deficiency in fresh vegetable food.

Alimentation by Hypodermic Injections of Olive Oil.—Drs. Fornace and Micheli experimented in five cases with the above method (*Rev. de Therap. Med. Chirurg.*, p. 712, 1897; *Am. Med. Surg. Bull.*). They injected 50 c.c. (1½ fl. oz.) at a dose. In each case there was a very noticeable increase in the body-weight and an improvement in the general condition; there was a considerable diminution in the elimination of nitrogen. Neither the urine nor the feces showed any traces of fat, nor was there any fatty embolism. In one case, after 30 injections, there were noticed small nodules in the lymphatics, each one enclosing a drop of oil.

The authors consider the nutritive value of these hypodermic injections much superior to that of the nutritive rectal enemata, no bad sqeuelae of any kind resulted, and the patients bore them very well.

Danger of Sudden Changes in the Diet of Diabetics.—O'Donovan (*Maryland Med. Journal*, April 23, 1898) warns against a sudden stoppage of diet containing starches and sugar in case of diabetic patients. He quotes from his own experience the notes of two cases, both of which terminated fatally within five days after the sudden change from a mixed diet to a diabetic one. Both patients were men who, as far as they knew, were in good health up to the time they came to his office for consultation. Neither presented any symptoms that would lead one to suspect impending collapse. Both were passing large quantities of water containing 4 or 5 per cent. of sugar. Both were very fond of sweets, which they ate in large quantities, as well as bread and other starchy foods. These things were forbidden them and they were put on a strict diabetic diet, with the result that they became suddenly weak and passed into a semi-somnolent state, and in spite

of stimulants, opiates, and all sorts of concentrated foods, died in less than five days. This accident is not properly described in American text-books and the omission is a very serious fault.

Nourishment of a Woman During the Puerperium.—In the *Wien. Med. Blaetter*, Dec. 16, 1897 (*Med. News*), attention is called to the wrong ideas which many physicians hold in regard to the amount of nourishment which a woman should receive immediately after childbirth. It is a well-known fact that after a severe surgical operation, nourishment is given to the patient as frequently as it is safe to do so, and in generous quantity. On the other hand, a woman who has borne a child is often kept for days upon a little tea or zweiback or thin gruel, when in reality she should be receiving a very nutritious and abundant diet. This is a bit of ancient tradition which has come to us from the time when puerperal fever was common, and when it was supposed to be dangerous to feed anything to the mother of a newborn child for several days. How unreasonable this idea is has repeatedly been demonstrated clinically.

Importance of Sugar as a Food.—Chauveau recently demonstrated before the Paris Academie des Sciences that the general assumption in regard to the amount of calories produced by sugar is erroneous. Instead of its being true that three grams of sugar are equivalent to the nine calories produced by the consumption of one gram of fat, only 0.756 grams of sugar are required to produce this same amount of calories. He urged the repeal of duties which tend to restrict the use of sugar, contending that the people should be encouraged to use it more freely.

Children's Foods.—The effects of foods upon infants has been investigated by Russow in Oldenburg Hospital (*Amer. Jour. of Psychology*). Some infants were nourished exclusively at the breast and others were given a mixed diet. At the end of fifteen days the average weight of the first class was 3,564 grams and of the last class 3,255 grams. At the end of the year the infants nourished exclusively at the breast weighed on the average 9,930 grams, and those on a mixed diet 8,480 grams, showing a difference of weight of 1,450 grams. The breast-nourished infants increased 150.7 per cent. of their weight at fifteen days, and those of the mixed diet, 140.7 per cent. Camerer shows that in the middle of the year breast-fed children were heavier, but concludes that whatever the nourishment during the first year, nevertheless all children at the end of the year reach about the same weight. Camerer gives about fifty individual cases, tabulating weights by weeks, and there is no evidence of the effects of differences of food, judging from the compared results at the end of the first year. If anything, the results favor artificial foods, at any rate so far as their weight-giving properties are concerned.

Diet in the Febrile Diseases of Children.—An editorial in the *Archives of Pediatrics* for January, 1898, ably discusses this very important subject (*Amer. Med. Surg. Bull.*): "As it is more difficult to feed young children in health than to feed adults, so in disease the question of diet is not only a more difficult one, but is, also, of great importance. The infant often has a very slight hold upon life, and even when disease does not seem serious it sometimes requires but a trifle to loosen it. When a child's life hangs in the balance, failure of the stomach to do its proper work may prove fatal. In the feeding of sick children three errors are too common—too frequent feeding, the administration of too much, and too rich food. The digestive powers are diminished by fever even more in children than in adults. Less food should be given in each twenty-four hours than in health, and it should be more diluted. It is a serious error to give milk to a sick child every few minutes. The child frequently takes it eagerly, not because it is hungry but to allay thirst. It should not be forgotten that milk, while liquid outside of the body, becomes a solid in the stomach, and is a tax upon the digestive powers. When milk is given at such frequent intervals it often happens when the critical period arrives that the overburdened stomach refuses to do its work. Complete loss of appetite, and perhaps vomiting, indigestion and gastro-enteritis are added to the original disease. Mere loss of appetite, by depriving the child of the nourishment it so urgently needs, may, in serious cases, prove a fatal complication. A careful record should be kept of the exact amount of food taken and retained during each twenty-four hours. The food selected should be milk, in most cases, diluted according to age and peptonized, if necessary. Next to milk in importance are beef broth, mutton broth, beef juice, wine whey, and oatmeal or barley gruel. The quantities should be regulated by the age of the child and it should be given at intervals of two hours.

A Case of Successful Ovariotomy in a Child Four Months Old.—D'Arcy Power, surgeon to the Victoria Hospital for Children, reports a case (*Brit. Med. Jour.*, March 5; *Gaillard's Med. Jour.*), which is remarkable on account of the tender age of the patient, as well as the successful issue of the operation. It shows that abdominal section is not very serious, even in the very youngest children, if proper precautions be taken to minimize shock. A breast-fed girl, aged four months, was admitted into the Victoria Hospital for Children, under the care of Dr. Carr, Feb. 7, 1898, suffering from distention of the abdomen. The child was in fairly good health until three weeks ago, when the abdomen began to swell. The child was not in pain. On admission the abdomen was enormously distended and was very tense. It was dull on percussion, except in the left flank, and the area of the dullness did not alter with the position of the patient. A well-marked thrill could be obtained with ease. The child measured 20½ inches in circumference at a point 2 inches above the umbilicus, and 10½ inches from the symphysis pubis to the tip of the xiphi-sternum. The urine was normal, and there was no edema of the legs.

An abdominal section was performed on Feb. 10, an incision 3 inches long being made in the linea alba above the umbilicus. A small quantity of fluid escaped as soon as the peritoneal cavity was opened, and a thick walled cyst immediately presented at the opening. The cyst wall was bluish in color, and many delicate blood vessels ramified over its surface. It was quite smooth, shiny, and there were no adhesions. A very fine cannula and trocar were inserted into the cyst, and about two pints of clear, yellow fluid were drawn off as slowly as possible, to enable the circulation to adapt itself to the altered abdominal conditions. The whole cyst was then drawn out of the abdomen, a large incision was made in its wall, and the remainder of the fluid was allowed to escape. The total contents of the cyst amounted to 59 ounces. The cyst was then found to be attached by a pedicle about the size of a slate pencil in thickness. The pedicle was transfixed, tied in the usual manner with fine silk, divided, and was allowed to drop back into the abdomen.

The child was a little collapsed after the operation, but it soon rallied and made a perfectly uneventful recovery, being ready to leave the hospital within a fortnight of the operation.

Subsequent examination of the cyst showed that it was a simple sac containing in its walls one or two thickened nodules, which were themselves undergoing cystic degeneration.

Ether Followed by Chloroform.—Dr. Hewitt (*The Hospital*, Vol. XXIII., p. 373, 1898; *Amer. Med. Surg. Bull.*) points out that deaths taking place in the early stage are usually due primarily to rigidity, struggling, and "holding the breath"; secondarily, to a considerable quantity of the anesthetic being taken in during the succeeding respirations, so that the heart becomes paralyzed by the chloroform carried directly to it. But by giving ether and chloroform in succession the stage of rigidity and excitement, which is the dangerous stage under chloroform, is passed over under the stimulating effects of ether. Fatalities during this stage are practically unknown under ether. Having secured a proper degree of anesthesia, chloroform may be substituted. Dr. Hewitt says that he has adopted this principle for several years, with splendid results. Should ether cause cough, embarrassed breathing, or the secretion of much mucus, or should the operation be likely to be a protracted one, a change to chloroform is certainly advisable. Anesthesia, however, should not be too deep when the change is made, or too much chloroform may be absorbed by the rapid respiration and brisk circulation brought about by the ether. Generally speaking, the conjunctival reflex should be present when the change is effected.

MISCELLANY.

—Artificial legs and arms were in use in Egypt as early as B.C. 700.

—The Philadelphia Hospital is said to be the oldest in the country. It has existed for 167 years.

—Dr. William Osler has succeeded Dr. William H. Welch as Dean of the Johns Hopkins Medical School.

—A cubic foot of fallen snow weighs five and a half pounds, and has 12 times the bulk of an equal weight of water.

—The Louisville (Ky.) *Post* says that George Arnold, of Lancaster, Ky., has invented a sewing machine for the use of surgeons in suturing wounds.

—Dr. Vedda, of Christiania, Sweden, thinks from the examination of over 300 married women who have never been pregnant that in 70 per cent. the fault is with the husband.

—A Pennsylvania judge has decided that a doctor who is registered as a practitioner in one county of that State has a right to practice in any other county without re-registering.

—The second International Congress of Experimental and Therapeutic Hypnotism will be held in Paris in August, 1900, immediately after the closure of the International Congress of Medicine.

—An Irish physician was riding a bicycle near Queenstown recently, when lightning struck his wheel, wrecking it beyond repair. The rider was bruised a little by his tumble, but was othewise uninjured.

—Hereafter the women of Russia must do without corsets. The Russian Minister of Public Instruction has issued a decree absolutely prohibiting the use of the corset, on the grounds of public health.

—Dr. S. Duncan Bulkley will deliver a free series of clinical lectures on diseases of the skin, at the New York Skin and Cancer Hospital, Second Ave. cor. 19th st., on Wednesday afternoons, commencing Nov. 2, 1898.

—Dr. Charles Harrington, of the Harvard School, after an analysis of all the diabetic food which claimed to be free from starch, that every one contained from 21 to 71 per cent. of starch, and that ordinary bread was much safer.

—Advices from Simla, dated Aug. 29, announce that there were 2,300 deaths last week from bubonic plague in the Bombay presidency. The epidemic is spreading, and there has been a fresh outbreak in the province of Hyderabad.

—The new Institute of Public Health for Edinburgh University is to be erected on the site of the synagogue recently purchased by the Town Council of Edinburgh, quite close to the Medical University and the Students' Union.

—The late Mary M. Carter directed in her will that her silverware be sold and that the proceeds be employed to found a bed in the Delaware Hospital at Wilmington, to be known as the Henry Harding Carter cot for the benefit of railroad men.

—Zambaco Pasha, of Constantinople, has endowed the French Societie de Derm. et de Syph. with funds for a biennial prize of 900 francs, to be awarded first in 1900, for the best article in French on the contagiousness of syphilis at all stages of the disease.

—Prof. Scudder describes *cuprun aceticum* (alcoholic preparation) as a blood maker, especially indicated in those severe cases of exhaustion or anemia in which there is little or no loss of flesh, but the skin, the mucous membrane and the features showing the poverty of the blood.

—The secretary of St. Luke's Hospital for Insane, in London, gives it as his opinion, based on experience gained from many years' contact with lunatics, that the most frequent cause of insanity is overwork, and particularly any prolonged form of labor of a monotonous kind.

—The New York State Association of Railway Surgeons will meet in New York City Nov. 16. A special feature of this meeting will be the discussion of the various medical and surgical systems in vogue on the railways of the United States. Papers will be read by lay officers of the different railroads and discussed by the surgeons.

—Antitoxin for the treatment of diphtheria and "sore throat" is being appreciated by the laity at least, says the *Western Medical Review*. A Jersey City druggist recently received an order for some. The order being couched in the following language: "Please give barer five cents worth of Aunty Toxin for to gargle babi's trote an obleage."

—In Germany women medical practitioners, wherever graduated, are not officially recognized, and so their certificates have no legal status. The influence of prominent women, however, is being used to bring about an alteration, and it is probable that the end of the century will see in Germany, as well as in Austria, women legally allowed to practice medicine.

—A commercial test is to be made in Chicago of a process for converting crude iron ore into the finest steel at one operation, without the use of spiegel and manganese or intermediate processes. The *Mining World* says that if the test proves as successful as anticipated, it will create a revolution in the manufacture of steel and make millionaires of the owners of the process.

—Raleigh County, West Virginia (an exchange says), is having great excitement over the presence of witches. The people there believe in witchcraft as thoroughly as did those of New England in the days of Cotton Mather. They call upon their witch doctors to relieve them from troubles which they think the witches have brought upon them. The lives of several suspected old people have lately been endangered.

—A New York oculist is reported in a scientific journal as saying "that Americans are too reckless of their eyes in exposing them to the electric light rays, and if a reform is not had, a sightless race may be developed." "The proper thing to do," he adds, "is to abolish electric lamps altogether, and substitute fluorescent tubes, which cost no more and give a steady light. It is said that arrangements are being made to light an entire block in New York by fluorescent tubes.

—*Medical News* says that a public exhibition has been made in Brooklyn of the powers of a powder called "Kilfyre," to put out fires. A pine structure well covered with kerosene and tar, was set on fire in one of the small parks. The flames having gained good headway, the powder was scattered over the pyre, and in four seconds the roaring mass was a blackened ruin, every spark having been put out. It is claimed that this powder is especially applicable for use in public meeting places, as schools, churches, theaters, etc.

—For quick results in many cases of anemia, the following plan is suggested, based upon a most gratifying experience (post-graduate). Have your patient lie down in loose clothing in a well lighted sunshiny room four hours daily; add to an ordinary simple but nutritious diet one quart of hot milk daily; give full doses of some reliable preparation of bone-marrow (Carnogen) with some form of iron, preferably Blaud's modified pill and have your patient use, several times daily, some preparation of manufactured oxygen.

—Hutchins (*J. A. M. A.*, April 23, 1898, *Med. News*) claims that vaccination may be robbed of its terrors by the application of liquor potassae to remove the superficial epidermis. Two or three minutes after the application is made the superficial epidermis may be wiped off with a bit of wet cotton, when a moist, shining surface will remain, without bleeding. The vaccine material is now applied and allowed to dry in the usual manner. The results obtained by this method show that the lymph will "take" as often when applied to a denuded surface as it will after scarification.

—There is a Russian Jew named Morris Fox, living in the east end of London, who has abstained for the last 20 years from all solid food, his sole daily diet consisting of six pints of milk, three pints of beer, and one-half pound of Demarara sugar. He is now over 40—the most healthy, intelligent and wideawake person in his quarter. At the age of 17, it appears, he caught some lingering fever, "which shattered his constitution, and entirely destroyed his digestive organs." He took many kinds of treatment in hospitals and from physicians, some of them of celebrity, but without effect. Finally he traveled to Konigsberg, where the doctors decided that he must live on sugar, milk and beer. On this regime he soon regained normal health.

ORIGINAL ARTICLES.

PARESIS, AND ITS DIAGNOSIS.

By Eugene G. Carpenter, A.M., M.D.,

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PATHOLOGISTS, in casting their eyes about for new regions to conquer, have been vigorously pushing their investigations into the field of the brain and nervous system. Haemi-section of the lower animals, and the newer and better methods of staining by which the pathology of brain cells is able to be demonstrated, have enabled them to make rapid and far-reaching progress in this line of work. Hitherto little that was *positive* has been suitable to offer students on the subject; so that almost their entire time and attention has been devoted as students to surgery and to the study of the diseases of the chest and abdomen. Considering the great progress made within the last decade in the study of the brain and its diseases, I believe that it offers as much that is positive in its physiology and pathology as any of the internal organs. Considering this and the large amount of clinical material at hand now in our large cities, it seems that a diagnosis of the commoner forms of insanity ought to be expected of us all. For an ordinary comprehension of the various forms of insanity, I do not believe in some of the extensive divisions.

Some 20 years ago Dr. Gray of Utica said (and in which there was a soul of truth for the time) as regards classification in insanity, "that all the numerous forms could find a place under mania, melancholia, dementia and epilepsy."

With a few exceptions, as paranoia and catatonia, for practical uses and for facilitating the clinical teaching of the subject the same might be said to-day.

The brain is an organ of our body, a most important part of its anatomy. It has its characteristic diseases, as other organs have, and it is difficult to comprehend why it should be subordinated, neglected and cast into the limbo of things unessential.

I purpose in this article an attempt at making clearer the diagnosis of one form of dementia, that of paretic dementia, or paresis.

Paresis was first described in 1822 by Bayle, a French physician. Although known as a disease distinct and separate from other brain diseases for the past half century, as distinct as smallpox is from scarlet fever, rarely is it recognized by the general profession, when it is of the greatest importance that it should be. Probably there is no disease as many-sided, having as many pathological phases,—psychic, motor, sensory and organic—as this manifests. Notwithstanding it is so obscurely ensconced behind these misguiding phases of disease, in most cases it may, by a moderate familiarity with its salient features, be extracted from its entanglement and given its proper place in diagnosis. Its early recognition may redound much to the physician's credit, as it is of great import to the friends of the patient. By a timely diagnosis the bitter chagrin of scandal may be avoided, the loss of property may be prevented, and injury of person, perhaps loss of life, may be intercepted.

It is not infrequent that paretics from whom the moral sense has departed make most flagrant breaches of propriety in public, or are found holding high carnival in Baccho et Venere, in the rendezvous of the demi monde. Dominated by his delusion he may become most profligate of money, most reckless of his physical power.

How then shall we recognize paresis when we meet it? It is not unlike other diseases. It does not always present to us a uniform array of symptoms, and like other diseases it has its "pot hooks of diagnosis." The chief symptoms of the disease we shall place in three groups, viz.: Sensory, motor and psychic, and will try to consider them in this order in dealing with each stage of the disease. One group may be found most prominent in one stage and subordinated in another. In the later stages we may find all three presented.

Here let us take a few bearings touching the points of age, sex, nativity, grade of society, heredity and habits of patient. These are all points of the greatest importance, throwing a flood of light on each case.

As regards age, it is found chiefly between 30 and 60, the greater number occurring between 40 and 50 years.

Paresis draws its numbers largely from the male sex, in the following ratio, comparing different nationalities: France, three males to one female; England, four males to one female; Prussia, five males to one female; and Spitzka claims for America fifty-eight males to one female. (Mickel.)

Dr. Clouston remarks of local distribution, that "Paresis prevails in some races and is unknown to others. The Asiatic is not subject to it, the savage is free from it, and the Irishman and Scotch Highlander need come to the big towns of America to have the distinction of acquiring it."

Paresis shows its victims from all grades of society, with some seeming preference for the better class.

Paresis is not hereditary as a form of insanity, but in the history of its subjects may be found insane ancestry. To give the habits of these patients is to explain its cause. Some one has abbreviated it into three W's—"Wine, Women and Worry." Anxiety, mental overstrain and mental shock may enter largely into cause, but it is anomalous to find a paretic, although there are such, who has not given a loose rein to his appetites and passions, and in most cases grossly given to sexual excess, if not a victim of specific disease. Strümple estimates 65% as having had syphilis.

To divide the disease into four stages instead of three, as is common, will aid in its apprehension. If the disease runs a regular course, these stages will exhibit symptoms characteristic of each, although there being no distinct line of demarcation, one passing gradually into the other.

First, then, is the premonition stage, or that of mental confusion.

Second, That of fibrillar tremblings and slight inco-ordination of the muscles of speech and facial expression, the mental alteration being one of exaltation and excitement, or of depression simulating melancholia.

Third, That of muscular inco-ordination and paresis with mental enfeeblement.

Fourth, That of advanced paresis with no power of progression, speech scarcely articulate; finally paralysis with mental extinction.

The first stage is the stage of incubation. It is the stage wherein the pathological process has made but slight inroads upon the cortical tissue of the brain. The pathological impression as yet being slight, most probably a moderate vaso-motor dilatation, we shall expect fewer and less pronounced symptoms, which is the case. In the examination of a patient in this stage, little can be gleaned from the friends—who are unobservant, perhaps biased, evasive, and frequently studiously withholding facts—save that he is a changed man. What you do get is fragmentary, much that is irrelevant, and passing it through the crucible of scientific analysis you must take it for what it is worth.

A paretic is generally a young man from 35 to 40, of good physique, frequently twice married, has been active in business, and hitherto had enjoyed the best of health. Now aside from realizing that he is losing his mental grip he disclaims any other ills. While he has no hallucinations of sight or hearing, both of these senses may be defective. There may be amaurosis, and a disparity in one of the pupils, most frequently the left, is apparent, a point most important to be noted. Severe cephalalgia is common, and many of these patients complain of pains behind the ears and beneath the occiput. Occasionally there are general bodily pains, which might prove misleading. In short, it is useless to attempt to enumerate the various sensory disturbances in this initial stage of the disease. Aside from slight fibrillar tremblings of the tongue, lips, face and eyelids, with some slight ataxia in the gait, often absent, there is a meagerness of motor symptoms. The psychical group of symptoms are more marked in his stage, and yet so moderate and obscure are they frequently that you scarcely dare suggest insanity. This is the last thing thought of by the friends. Some writers have called this the medico-legal stage of paresis, as their commitment frequently gives rise to litigation. For while it is apparent that the patient's ideas are in some degree exalted, and he looks at all things roseate, *yet they may be coherent and do not reach up to the point of positive delusion.* He is forgetful and cannot give you the day and date; says he can no longer add up columns of figures or make computations with any degree of correctness. In his mental operations he becomes confused and is unable to follow any line of thought consecutively. He is restless, agitated, irritable in temper, speculative, not unfrequently making extravagant purchases and unprofitable sales. The sexual propensity is overactive and a wife may be subjected to the grossest exactions. These symptoms should place the medical attendant on his guard, and no time should be lost in placing the patient either under the surveillance of attendants or in the security of a retreat.

Passing into the second stage, we should find as a rule an abundance of physical and psychical evidences of brain disease. This is the active stage of paresis. Great sensory perversion is evinced by illusions and hallucinations of sight and hearing. The disparity in the pupils is more marked and is rarely absent in this stage; visual hyperaesthesia is rare, but auditory hyperaesthesia common. Jerking of the tongue on protrusion, with fibrillar tremblings of tongue, lips and muscles of face is more marked. Common sensation is generally diminished and the pateller tendon reflex is in excess. Articulation is hesitating and a dragging of uttered sounds is characteristic. He utterly fails in the pronunciation of words of more than two or three syllables. The gait is ataxic and it is with difficulty that he makes a turn. The mental symptoms of the previous stage have passed from moderation to extravagance. There is a general feeling of *bien etre*, and his delusions of grandeur indicate that his emotional exaltation has reached the highest pitch. In his mental expansion he is a great engineer, a capitalist, a statesman, or president. To bridge the Atlantic is as the turning of the hand; the wealth of a Euclid is but a bagatelle; and no estate, even to the height of Deity, is beyond the reach of his ambitious deliruim. There is in this stage an extreme irritability, and the patient when crossed or thwarted in his plans may become impulsively violent and attack any one in his presence.

In the third stage all the classical symptoms are prominent, *the contracted pupil, the jerky and trembling tongue, the ataxic speech and straddling gait, the expansive delusion*, all point to no uncertain condition. The mental storm, however, has subsided, and now he sits, fat, stupid, dull and demented in his childish self-complacency. This condition occasionally alternates with recurrent spells of excitement. He is yet able to stammer his delusions if suggested to him, but he does not insist on their truth. Locomotion is difficult, and the least trip or push may throw him from his balance. From this condition of hebetude and advanced paralysis the patient becomes emaciated, loses all power of locomotion and becomes helplessly bedridden.

The fourth stage is the stage of confirmed general paralysis and complete mental extinction. The upper works have been swept away and he now survives by virtue of his medulla, as yet intact. It is a mere vegetative existence. Unable to utter more than guttural sounds, scarcely able to swallow, unclean in habits, invaded by bed sores, rapidly wasting, he soon comes to an end.

Paresis does not always pass through these stages, as in any of them the life of the patient may be suddenly terminated by attacks of congestion, epileptiform seizures, or by apoplexy. These frequently occur along the course of the disease and any one of them may hasten dissolution.

Paresis stands alone in being a form of insanity due to organic disease of the brain. It is a disease of the gray matter of the brain, the cerebral cortex—that tissue the most highly evolved in nature—highest in quality, highest in function. Abused by mental and material stimuli, exhausted by continued violent energizing and overstrain, it falls into rapid progressive and irretrievable degeneration. Dr. Clouston has briefly summarized its pathology in this manner; "Paresis is a disease of the mind tissue; it is essentially a death of that tissue. I look upon it as being a premature and sudden senile condition; senility being the slow physiological process, paresis being the quick pathological one. The causes of it are causes which have exhausted trophic energy by over-stimulation. Its first stage is accompanied by undoubted vasomotor dilatation, so that all the tissues enveloping the brain and holding its elements together receive an abnormal supply of blood and thereby acquire tissue hypertrophy of the skullcap, the membranes, the neuroglia, the epithelium and the arteries. Just as the tissue of degenerations, especially the brain degenerations of old age, cannot be arrested and are necessarily progressive, so is paresis. Those high nerve cells have lost their once inherent power of restoration, so they degenerate and atrophy."

According to the latest methods of histological investigations, we have in addition to the above, marked changes in the cell elements and their dendrites in every section of the cortical layer, which consists of a pigmentary degeneration of the third and fourth layers and a granulo fatty degeneration of the large pyramidal cells. These results may be obtained best by the methods of Bevan-Lewis, of England, and Berkeley, of Johns Hopkins' University.

The differential diagnosis will be made with special reference to those diseases which simulate it most; those having brain and paralytic symptoms, such as alcoholic insanity, syphilitic brain disease, paralytic insanity, what is commonly called brain softening and tabes. Acute alcoholism may easily be determined by the history and time.

In chronic alcoholism we find impairment of speech, general muscular tremor, ataxia and inco-ordination, loss of memory, mental depression more often than exaltation; if the last, you may have hallucinations and delusions of grandeur, but none of these so marked as in paresis. Rarely is there the disparity in the pupils. The muscular tremblings of the tongue and of parts of the face, and the obtrusion of his expansive delusions, are usually absent. The history and general appearance point to a condition of long continued self-abasement. Such a case may make some improvement under treatment; if not, the may live for years in much the same condition, which would not be the result in either instance in paresis.

As regards syphilis, bodily indications, the history of treatment, its course, are of great value. While the motor signs in this may resemble those in paresis, yet it is more characteristic of syphilis to manifest itself by positive paralysis, a hemiplegia or monoplegia or a paralysis of one of the cranial nerves points more to syphilitic leptomeningetis. We look more for somatic than psychic changes in this disease. The insomnia and the cranial pain is greater in syphilis. The mental condition is more likely to be one of depression rather than grandeur. Morbid fear is more common than the feeling of well being. Amnesia and dysphagia occur oftener in syphilis. You may have delusions and excitement, but more probably reticence and stupor. In one, treatment may dispel the symptoms; in the other it accomplishes nothing.

When insanity follows paralysis of central origin, it is called *paralytic insanity*. It is entirely distinct from paresis. In fact, in the latter, insanity preceded the paralysis. Paralytic insanity follows gross brain lesions, apoplexies, ramollisments, tumors, hemorrhages, embolisms, thromboses, atrophies and degenerations. Paralytic insanity is not essentially a specific disease; it does not run a progressive course; it is not incurable; it is not regular in the variety of its symptoms. The ones who suffer most from these lesions are those who sustain more or less permanency of the paralysis. To this is added a stuttering speech, an impaired gait, and perhaps an unequal pupil, symptoms closely simulating paresis. But from the history of a structural lesion and its effects still apparent, and remembering that paresis is progressive *and rapidly repairs its apoplectic seizures and paralysis*, you will be able to distinguish the two, though having some symptoms in common.

Paresis seems to be much confounded with chronic *brain softening*. There may be very small portions of softening on the surface of the cerebral convolutions in paresis, but it is not a diffused brain softening. Diffused brain softening is a rare disease; it occurs mostly in the aged. There is a history usually of coarse brain lesion; you do not have the motor signs of ataxia and inco-ordination as in paresis. There is a marked absence of the classical symptoms of paresis. There are no active mental symptoms usually, but are rather of a passive kind. Its chief mental symptoms are loss of memory, lack of attention, marked mental failure, drowsiness and fatuity.

Paresis is often confounded with *tabes*. The two diseases often exist in combination. The tabetic symptoms are manifested by the gait, retarded sensation, and trophic changes may be taken in the advanced stage of paresis. I doubt if paresis ever follows tabes. Considering them separately there should scarcely be any confusion. To be sure, in tabes you may have the Argyle-Robinson pupil and ataxia gait, but except where the two are combined will you have the Romberg symptom, absence of patellar reflex, lancinating pains, and girdle sensations so very characterisitc of disease of the posterior columns.

Paresis is the most fatal form of insanity; more to be dreaded than any other variety; not alone is it destructive to mind, but invariably to life itself, and that in a few brief months or years. So fatal is it, so unmoved by treatment, that there is no well authenticated case of recovery on record.

LITERATURE.
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Mickel, "General Paralysis of the Insane."
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CARCINOMA OF THE BREAST.*

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I HAVE had some experience in operations upon tumors of the breast, having operated 25 or 30 times for what I judged to be malignant growths, and in a considerable proportion of these cases the diagnosis was confirmed afterwards by the microscope. It had been my experience to see several recurrences, and it has also happened that a good many of the patients have passed from my observation. A few of them have gone over the three-year limit. In one case operated upon three years ago there was a recurrence two years afterwards, and a secondary operation was performed. This was done in December last, and the patient is at the present time entirely without any manifestation of the disease. But it has happened to me that in those cases in which I have done a more extensive operation, probably because they were cases which more urgently required it, that recurrences have resulted. In two cases in which I removed the pectoralis major muscle, doing the complete operation suggested by Halstead, recurrence has taken place in one. In the other case it has not yet been a year since the operation. In the case in which recurrence took place it was evidently from infection high up in the axilla, inasmuch as the recurrence at the present time is still confined to inflammation of the arm. There is no recurrence in the cicatrix, and no tumor can be felt, but the arm is greatly swollen and the patient perhaps suffers more pain now than she did before the operation. In this case the axilla was explored and the glands were removed high up under the clavicle and above it. The vein was perhaps involved, at least the glands were so tightly adherent to it as to make it necessary to pull them directly away from the vein itself. I have never resected a portion of the axillary or subclavian vein for cancerous involvement, although I have had reason to believe that it might have added to the safety of the operation as far as the chances of preventing recurrence is concerned. And in this one case in which it appears that there must have been involvement of the vein, it might possibly have been an advantage to have taken the vein away. Evidently from the edema from which she suffers at the present time, there is some occlusion of the vein; possibly it is due to inflammation of the vessel walls.

I approach these cases with a great deal of uncertainty and trepidation, and always feel that there is but little to be promised the patient. At the same time the results of operation in other hands have encouraged me to believe that there may be a favorable prognosis given in a very considerable proportion of cases. It is believed by a number of surgeons who have had large experience with these operations, that at least 40 per cent. of the cases can be saved, and other surgeons who have also had great experience are more conservative and put the figure lower. Bull, who has investigated the subject closely, believes that 25 per cent. of cases can be permanently relieved. Halstead makes even a more extravagant claim than this. With this knowledge before us, and in view of the fact that those of us with limited experience have been unable to obtain such results, we must have reason to believe that our efforts are more or less imperfect, that our results are not as good as those obtained by other operators. I believe it is our duty to submit these patients to early and radical operation; complete excision of all tissue which may be involved, even to removal of portions of the ribs themselves, or even the clavicle, and the diseased veins, even the artery itself if involved. It has been removed in some instances, and the wisdom of its removal is emphasized by those who claim a great deal for the radical operation.

It has not happened in my hands to have any immediate mortality following operations for cancer of the mammary gland. One woman upon whom I did an operation for sarcoma of the breast, who was suffering at the time with extensive disease of the heart, and who also experienced some suppuration after the operation, perished about five weeks after the operation suddenly, from an asthmatic condition, which was evidently due to the heart lesion which was a very prominent feature in the case.

I operated three weeks ago upon a young woman who had been subjected to an operation two years before for cancer of the mammary gland. The primary operation was performed by a very competent surgeon of this city, who fully believed the condition was not a malignant one, and merely removed the breast. He did not explore the axilla. The cicatrix was perfect and the appearance of the surrounding parts was perfectly healthy, but a gland as large as the end of my thumb could be distinctly felt in the axilla. When I made an incision down upon this enlarged gland, I found not only this one but a number of others were involved, and that the axillary vein was studded with points of infiltration high up even upon the subclavian vein, and the tissues overlying the muscles below the axilla were also infiltrated. All this infected tissue was carefully removed, and the glands taken away through a comparatively small incision, although an extensive surface was denuded. Of course this case was operated upon too recently to predict whether a recurrence will take place, and I merely report it to show that it is impossible even for the best judges to determine the character of a tumor upon which the operation is made. A microscopical examination of glands removed showed them to be scirrhous in their pathological condition.*

* Stenographically reported for this journal by C. C. Mapes.

* This patient has since perished from secondary deposits in the mesentery and liver.

I am thoroughly convinced that the progress of surgery will show a greater percentage of recoveries from operations upon cancer of the mammary gland than is apparently safely claimed at this time. I believe, too, that this result will be obtained by *earlier* and more radical operations. And these operations done carefully under antiseptic precautions, with the advantages that can be shown patients in well-appointed infirmaries, will be attended with a very light rate of immediate mortality. I think that in those instances in which recurrences take place, it will be regionary and not local. By regionary I mean recurrence will take place in the lymphatics, which were associated, some little distance fom the point at which the operation was completed. Where metastasis occurs it is, of course, very clear that all the disease was not removed, or that infection had occurred prior to the operation.

I think the question is fairly well settled in the minds of most surgeons to-day, that it is our duty to undertake removal of these breast tuomrs at the earliest possible moment, and do it as completely as possible, not to fear the effect upon the constitution of the patient by extensive operation, but be as radical as we can to complete removal of every particle of the disease that can be seen or even can be suspected.

BOTTINI'S GALVANO-CAUSTIC TREATMENT OF PROSTATIC HYPERTROPHY—A PRELIMINARY REPORT OF THREE CASES. *

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THE medical world has largely held that prostatic hypertrophy, with its many harassing manifestations, was incident to old age, which the afflicted must bear with fortitude, getting relief through bladder douches, catheterization and internal medication, or submit to one of the numerous radical surgical operations—prostatectomy, bladder drainage, emasculation, vasectomy, ligation of the internal iliac arteries, etc. Much has been written about the relative value of these operations by their advocates, and much, it must be acknowledged, has been accomplished by them.

No fixed rules for the various forms of surgical relief have as yet been formulated; the advice of the surgeon in many cases being greatly influenced by his personal preference.

It is a well known fact that elderly patients do not react well from surgical operations, hence all careful genito-urinary surgeons when consulted by prostatic patients for relief of frequency of micturition, incontinence of urine, etc., hesitate to recommend radical surgical measures, although these become absolutely necessary, if proper hygienic methods have been observed and careful medication, bladder douches, catheterization, etc., have failed.

The more often a surgeon makes a supra-pubic cystotomy for drainage, the less he admires the results of the operation; and patients, no matter what their age, have a great aversion to the idea of being unsexed by emasculation or even by a resection of the vasa deferentia. This, with the final results of the last two operative measures, has made all consider the future well-being of their patients when advising these operations; though many have terminated successfully, yet the nervous symptoms which have supervened have often been deplorable and sometimes unexpected, some losing their mental balance or developing melancholia, others becoming maniacal. In other words, these methods of treatment have not proved the panaceas which were expected; though in selected cases, *i. e.*, those in which there was or had been a pathological change in the testis or spermatic cord, the results of the operation have often been all that could be expected.

Prostatectomy, though seemingly severe and dangerous, is advisable in selected cases, and, when the testes are healthy, there is an equal chance for immediate results, and an infinitely better future.

Having performed all these operations, sometimes successfully and again with failure, I cannot but think well of an operation which has given 100 per cent. result on the right side, which the Bottini's galvano-cautery incision has apparently done. This operation was first made in 1872, but as the instrument was complex and cumbersome, the method was little considered by the profession until Freudenburg modified the original instrument (Fig. I.), which can be rendered perfectly aseptic by boiling.

It consists of a shaft shaped like a lithotrite, provided with a platino-iridium blade or male shaft, which is directly connected with a storage battery (Fig. II., the Willy Meyer battery),* or

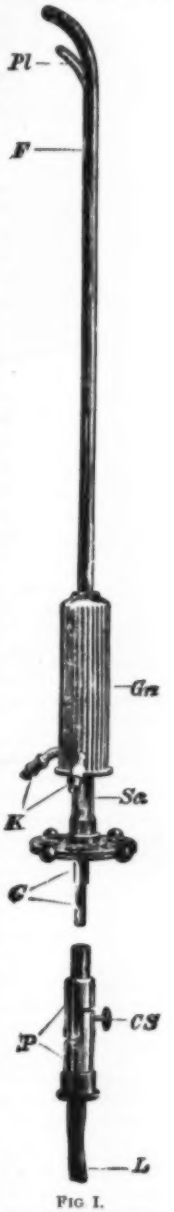

Fig I.
Bottini's Incisor.
(*Freudenburg's Modification.*)

Pl, platino-iridium knife; *F*, female shaft; *Gr*, grooved handle; *K*, water pipes of the cooling apparatus; *Sc*, scale marks on central stem; *C*, pivot at end of incisor to attach cable contact, *P*; *CS*, contact screw to make and break current; *L*, electric cable.

* Reported to the Clinical Club, October 21, 1898.

* To charge this battery, connect same with a current of 7½ ampères strength for eight hours. When thoroughly charged it has a capacity for three operations, but it should under no consideration be used for more than this number before recharging. This battery gives a current of 4 volts and 50

FIG. II.—THE WILLY MEYER STORAGE BATTERY.

with the street alternating current of 104 volts by means of the cautery transformer (Fig. III.), and control with the ampèremeter† (Fig. IV.),

ampères. Directions for use: Connect the two cable terminals with the two binding posts on the left hand side of the battery marked "Use." Throw in two cells by turning the tongue of the switch to the No. 2. The tongue being set on No. 0 means that neither one of the two cells is connected. Turn on the current by turning the black screw situated between the four binding posts to the right and the needle of the ampèremeter will soon show the strength of current. For the operation a current is needed sufficient to heat the cautery knife to a red glow—ranging between 45 to 50 ampères.

NOTE.—Precaution should be taken to have the male terminal of the instrument entirely introduced into the female terminal of the cable.

†The current from the street mains is led into the primary coil by connecting the attachment cords from the mains to the two binding posts on the right hand end of the instrument, after first threading the ends of the cords through the two diagonal holes in the wood base at that end. The secondary coil is wound on the movable spool. It is operated by a ratchet device, and the terminals are brought out to two pin (or socket) attachments mounted on one head of the coil, to which the cautery cord can be attached. By moving the coil to the right, the current is increased, and vice versa.

The apparatus is fitted with a switch at the back, which automatically cuts off the current from the mains, when the cover is closed.

The connection of transformer with ampèremeter and incisor is accomplished as follows:

Connect one end of a short cable of about one yard's length with the one socket on the movable spool of the transformer, the other end with binding post A of the ampèremeter. One terminal of the heavy cable furnished with the incisor is then connected with binding post B of the ampèremeter, while the other terminal of the incisor cable is connected with the free socket on the transformer spool.

In this way the current travels from the mains into the transformer, thence through the ampèremeter into the incisor and thence back into the transformer, thus closing the circuit.

NOTE.—Precaution should be taken to have the male terminal of the instrument entirely introduced into the female terminal of the cable.

Should there be a sudden interruption of the current look to the porcelain plug, which is easily taken apart, as a safety fuse of lead wire may be burned out, which is easily replaced by the surplus fuse wire furnished with each transformer.

and concealed, when the instrument is closed, within the female shaft.

The platino-iridium blade is exposed by turning the wheel attached to the Archimedian screw to the right, the scale on the exposed shaft behind the wheel exactly gauging the length the male blade is exposed or the length of the groove made in the prostatic tissues. The incisor is provided with a cooling apparatus, which runs through the entire length of the shaft, crossing at the beak and returning on the opposite side of the instrument. The entrance and exit of the water canals are directed downwards and inwards. To one is attached a piece of rubber tubing, which supplies cold water from a reservoir and to the other a similar piece of tubing, which conveys the water to a receiver.

FIG. III.—THE CAUTERY TRANSFORMER.

Before the operation the bladder should be examined with the cystoscope as well as with the Thompson stone searcher, to ascertain the presence or absence of stone, the relative size of the so-called middle lobe of the prostate, and the prominence of the lateral lobes. This is of great importance, as in one of the cases operated the median lobe was so large that it prevented the turning of the incisor, yet anterior and lateral incisions gave excellent results.

FIG. IV.—PORTABLE AMPEREMETER.

When the so called middle lobe is pedunculated, the median posterior incision should be omitted, as it would be useless; and the divided lobe would only act as a valve which might completely close the internal urethral opening when the urine was being expelled by the contraction of the bladder. In one reported case the division

of a pedunculated mass caused a profuse, though not a fatal, hemorrhage. After the patient has been properly prepared, tae bladder is emptied by means of a catheter, and carefully douched with a saturated solution of boric acid until the solution returns clear. This is followed by a solution of nitrate of silver, 1-8000. As the catheter is withdrawn and its eye is located in the prostatic urethra, and about one-half inch from the internal sphincter (this distance being ascertained by a properly applied clip mark on the catheter as indicated by the flow of urine when the catheter was introduced), a half dram of a 2 per cent. solution of cocaine is injected. In about five minutes the parts will be sufficiently anaesthetized to render the operation painless. The hips of the patient are raised a trifle by a pillow to cause any urine accumulating in the bladder to remain at the base of the viscus, and not come in contact with the cautery blade. The incisor is first previously tested by trying the knife heated to a cherry red, on a piece of moist sterilized gauze; the cooling apparatus is then examined, to see that the cold water is running properly, and is placed in the care of a competent assistant. The incisor is lubricated with glycerine or lubrichondrin and introduced as is customary with all urethral instruments of this class. The curved hook after its entrance into the bladder is brought forward, until on depressing the handle slightly the instrument embraces the upper segment of the internal urethral orifice. The electric current of the required strength (about 50 ampères), controlled by an ampèremeter, is turned on for about 15 seconds, when by turning the Archimedian screw to the right the platino-iridium blade, heated to a cherry red, is brought forward about one to one and a half centimeters, burning a groove in the prostatic urethra towards the symphysis. The blade is then returned to its original position in the female shaft by turning the wheel to the left. The whole instrument is now turned and the curved end or hook directed towards the rectum, and after being properly caught around the posterior median part of the prostate, the male blade is brought forward along the floor of the prostatic urethra, incising a similar groove towards the rectum two or three centimeters in length. A third groove of the same length is made in the larger of the lateral lobes. Should the incisor work too freely, the current must be reduced a little; or increased, if it cauterizes too slowly. The cauterization requires about 20 seconds for the anterior incision and about 60 for the posterior and lateral. If the cauterization is made too rapidly, hemorrhage often results. and the cautery blade on removal will be thickly coated with decomposed tissue. During the operation the odor of burnt flesh is often noticeable, and a hissing sound can be heard on auscultation over the bladder. When the cauterization is complete the instrument is removed; drainage and further attention is, as a rule, unnecessary; dilatation by sounds is rarely required, as the circular muscular coat of the posterior urethral opening and the hypertrophied prostatic collar have been severed. The divided circular muscular fibers tend to keep the grooves open, and the urine as voided per urethra also assists. The cauterization sears the grooves made by the incisor, and, as a rule, prevents urinary or bacterial absorption. The patients complain of some burning on micturition, for the first two or three times; there is no rise in temperature; hemorrhage is uncommon; usually they can safely leave their bed by the third day. If hemorrhage of any great magnitude occurs, which cannot be controlled by the Bates hæmostat, a perineal or supra-pubic cystotomy may be required. There is generally a flow of a few drops of blood after the incisor is removed, the urine may be slightly discolored for a day or two, and hemorrhage is generally unimportant. There is a danger of acute toxæmia from opening a pus pocket in the prostate and from thrombosis of the lungs from blood clots. When a severe pyelitis or cystitis is present, the operation should not be undertaken until after proper antiseptic bladder douching and internal antiseptic medication.

Case I.—Mr. F.; aged 78; German; baker; admitted Aug. 20; family history negative. For 10 days previous to admission was troubled with diarrhoea. Stools yellow, slimy, painless and passed involuntarily; urine voided involuntarily. Physical examination showed some oedema of the lower extremities, weak heart action and moist rales in lower lobe of right lung; an enlarged prostate, the antero-posterior diameter being two and one-half inches and the lateral about the same. The urine was orange colored, specific gravity 1012, and contained a large percentage of albumen, an abundance of sodium urates and triple phosphates, many pus corpuscles and some epithelia from the convoluted tubules. The diagnosis was enteritis, nephritis and enlarged prostate.

On Aug. 31 the stools were still involuntary, five during the night and three during the day, brown and soft. The urine continued to pass involuntarily. On September 15th there was some improvement of the bowel disorder. The involuntary micturition still continued. On catheterization, after an escape of urine, four ounces of residual were obtained.

On Sept. 20, after due preparation, shaving and a thorough cleansing of the parts with green soap and hot water, and irrigating with bi-chloride of mercury 1-3,000, catherization and douching of urethra and bladder with a saturated boracic acid solution, etc., Bottini's incision for enlarged prostate was performed: three (3) grooves were made in the prostate. The operation was almost painless, and but a few drops of blood came from the urethra after the removal of the instrument.

After the operation the temperature became slightly subnormal and remained so during the day, with pulse somewhat slow and weak. An hour and a half after the operation he micturated twice voluntarily, passing four ounces, the acts being accompanied by sharp burning pain. During the night he micturated voluntarily four times. On the 21st his bowels moved once, the stool being soft and watery, but on the 22d there

was a normal movement. On the 23d the patient was discharged at his own request, the involuntary urination and defecation having entirely ceased. He said he felt good and promised to call at my office at the end of a month.

Case II.—Mr. F., aged 72; Ireland; bricklayer; admitted July 22. Family history negative; moderate drinker; does not use tobacco; denies venereal disease; gives a history of several attacks of inflammatory rheumatism. About six weeks ago suffered from sharp pains in the thigh, knees and back, aggravated by damp weather; stiffness and pain in the back which interferes with walking, compelling him to take short quick steps. Physical examination shows some stiffness of the lower extremities; hemorrhoids and prostatic hypertrophy; lateral diameter 2½ inches, anterior-posterior about the same. Until the 31st of August the patient remained in the medical ward and the rheumatic conditions were greatly improved, though he urinated about every 10 minutes, and there was a constant dribbling. Sept. 11 he was transferred to the G. U. Division. At this time he had no control of the urine; by catheterization about four and one-half ounces of urine were removed, which gave all of the chemical and microscopical evidences of chronic cystitis. Internal and local antiseptics were administered until Sept. 20, when Bottini's incision for enlarged prostate was performed under the usual strict antiseptic precautions. A groove was made towards the symphysis and one laterally. The median lobe was so large and pedunculated that the incisor could not be turned posteriorly. After operation pulse was good, the temperature normal and continued so. In the evening he urinated twice voluntarily, the act being accompanied by sharp burning pains; until the 28th he urinated at times voluntarily, at others urinary control was lost. From the 28th patient apparently lost all control of the urine for about a week. He felt the desire, but the urine would escape before he could reach the urinal. Strych. sulph. 1-60 of a grain was prescribed, t. i. d. An improvement commenced about Oct. 1, which has continued since. From Oct. 9 he has had complete control of the urine and now voids from three to five ounces voluntarily every three or four hours. Rectal examination discloses the prostate apparently diminished about one-third in size.

Case III.—Mr. P., aged 79; German; dyer; admitted Aug. 30. Three weeks previous to admission he suddenly became unable to pass his urine, and under a physician's advice he went to Roosevelt Hospital, where a supra-pubic cystotomy was performed. He does not know why the operation was performed nor the cause of his inability to urinate. Three or four days after he appeared at home with an open wound in the abdomen. He had escaped from the hospital and could not be persuaded to return. He remained at home for several days, and was then sent to the Metropolitan. On admission he was in a state of wild delirium and had to be restrained. There was no dressing on the abdominal wound. Examination showed a supra-pubic wound two inches in length, which was infected and sloughing, and communicated with the bladder. The urine all passed through the wound and the surrounding skin was excoriated, but none passed through the urethra. The microscopic urinary characteristics were hidden by the blood, pus and debris; sufficient urine for chemical examination could not be obtained. The prostate was greatly enlarged, filling to a large extent the pelvic cavity. Prescribed cuprum ars. 3x. The wound was dressed frequently with bromine 1-500, and the excoriated skin with carbolized vaseline; later a catheter was introduced and the bladder douched daily with, first, a 50 per cent. peroxide of hydrogen solution; second, a saturated solution of boric acid, and finally, with a 1-8000 nitrate of silver solution. He also had a bed sore on his left scapula, which was dressed daily with stearate of zinc and acetanilid. Under this treatment the mental symptoms cleared, the wound became clean, and on the 20th Bottini's incision was performed. Three grooves were made in the prostate. The tissues were soft, friable and easily lacerated by the instrument; considerable hemorrhage followed withdrawal of the instrument. Two hours after operation the patient had a severe hemorrhage, bleeding from the penis and the abdominal wound; when discovered, the bedding was soaked with blood. Bates' hæmostat was applied to the urethra, the bladder packed with sterilized gauze, and the usual methods to combat collapse were resorted to. Four hours later the dressings, being saturated with blood, were changed; at two p.m. his temperature was 101.8, pulse 114, respiration 30. The dressings, having become saturated, were changed, and were again renewed on the afternoon of the 22d; on the 23d the gauze at the end of the penis was found wet with urine. The wound was dressed antiseptically and a 32 French sound introduced daily until Oct. 5, and the bladder washed each morning with a 50 per cent. peroxide solution, a boric acid solution, and finally with a nitrate of silver solution 1-8000, and the catheter was left in the bladder for drainage. On Oct. 6 the strength of the silver solution was increased to 1-6000. The abdominal wound was much smaller and was granulating rapidly; he desired to pass the urine through the penis and called for the urinal; on the 10th solutions, when injected through the abdominal wound, returned both through the wound and the penis. On the 20th the patient was sitting up, said he was feeling quite well and strong; he voided his urine through the urethra about once in two or three hours; the supra-pubic opening was almost closed, admitting a probe with difficulty, and when the bladder contracted in the voiding of the urine, a fine stream would spurt out of this opening, a broad stream at the same time being voided per urethra. On Oct. 22 the bladder washing was discontinued for two days, when delirium returned, the supra-pubic opening enlarged a little and discharged some little chalky concretions. The bladder douches were immediately resumed, when the toxic symptoms cleared in about 36 hours. At the present time the indications are that the supra-pubic opening will shortly close, though it may require a secondary operation.

While mental aberration, not from toxæmia, sometimes occurs after supra-pubic cystotomy, appearing about the end of the first week, in this case the delirium was probably due to toxæmia, for the following reason—he gave evidence of improved mental condition within 24 hours after the institution of proper bladder douching and antisepsis. The mental condition returned during the third and fifth week, when by some misunderstanding douching was discontinued, and was immediately relieved when the bladder toilet was re-established.

After operation the urine is generally voided in a thick broad stream, and the frequency of micturition is greatly decreased, becoming more normal as the bladder, under proper treatment, regains its tone. Bottini has had a death rate of less than 2 per cent., and his patients were usually allowed to be up and around in from two to four days.

In two cases reported by others the incontinence of retention was at once relieved; some of the reported cases have had dribbling of the urine for a few days or weeks after the operation, but in every case it has finally disappeared; constipation, which is often present with prostatic hypertrophy, soon disappears, though it is often preceded immediately after the operation by diarrhœa.

Sometimes the first operation fails to give relief, due to an imperfect division of the tissues; if this occurs the cauterization may be repeated in about two weeks. Bottini says that when the obstruction is relieved by his operation, the cure is permanent and he has never had a case relapse. In his 80 reported cases, of the first 57, 43 were successful; 11 improved; 2 died. His last 23 with the modified Freudenburg instrument were all successful. Freudenburg reports 13 cases, 1 died 24 days after the operation, and 1 of embolic pneumonia; 7 of the remaining 11 cases had been dependent upon the catheter for periods varying from two months to five years. After the operation the retention was entirely relieved and they could urinate voluntarily. Four of these were entirely relieved; though three had some residual urine and were obliged to use the catheter occasionally. The other four cases suffered from painful micturition and spasm of the bladder; they were all greatly benefited. One before the operation had 60 to 70 calls to micturate daily, which was reduced after the operation to eight or ten. Myers reports five cases, with one death; two greatly benefited; one who had 10 ounces of residual urine and four years of catheter life, was entirely relieved. Morton reports five successful cases.

The Bottini operation, when properly performed, seems to possess great advantages and in selected cases should be advised when catheterization is difficult, becomes painful, is followed by hemorrhage, or must be repeated at frequent intervals. Again it would appear to be indicated in cases in which the condition is such that a catheter life must be established, with all its annoyance and often unpleasant sequelæ, medication and local treatment having failed.

From my experience and investigation of the subject, I am of the opinion that the Bottini operation will be the one of choice for prostatic hypertrophy, when the fibrous elements predominate; it will give the best results when retention of urine of prostatic origin has not been complicated by cystitis; and is particularly indicated for the contracted fibrous prostate which Fuller describes as a chronic contraction of the prostatic fibers encircling the vesical neck, producing all the objective and subjective symptoms of prostatic hypertrophy except the enlargement.

ACUTE OSTEOMYELITIS.

By H. A. Sifton, M.D., Milwaukee, Wis.

BEFORE the commencement of the last century no disease had been described which could be recognized as inflammation of bone. About that time Petit detailed a number of cases of acute inflammation of the long bones, which was undoubtedly what we now designate as acute osteomyelitis. A number of surgeons have since written on this disease, under various names, as osteitis, medullitis, endostatis and pseudo-rheumatism—until in 1834 the term osteomyelitis was suggested by Nelaton, from which time it has been usual to describe the disease under this title.

The first form of the disease to be recognized and described was the traumatic variety accompanying any form of injury to the bone. The relation of this form to so-called spontaneous inflammation of bone was not clearly understood until the days of Pasteur, since which time it has been known that they are one and the same disease, and are both due to pus-producing germs. The only difference is in the mode of introduction of the infecting material.

Recognizing then the fact that no matter in what form the disease may appear (it is always due to infection by one or more varieties of pus-producing germs), we have only to consider in our study of the etiology the mode of introduction and the resistance of the tissues to infection. The disease commences, as the name implies, in the medullary tissue and those bones which have the greatest amount, as the tibia and femur, are most frequently attacked. It usually begins near the ends of the bone where the cancellous structure is greatest.

It is much more frequent in children and young adults, whose bones have relatively a larger amount of medullary substance, than later in life. It commences near the epiphyseal line, where new bone is formed and the blood vessels are undergoing change. This new growth of blood vessels, together with the anatomical fact that the capillaries of the bone are in many instances larger than the arteries that supply them, and that in places they are devoid of walls, being rather channels in the cancellous structure, make the best possible conditions for the lodgment of pathological germs.

In the traumatic form, in which there is an open wound, the infection is conveyed directly to the cancellous structure. But where there is no open wound it has been thought that in a

few cases the channel of infection was through the lymphatics. This is difficult of demonstration, and probably not correct.

In the great majority of cases, perhaps all, the infection is carried through the medium of the blood vessels. This is evidenced by the fact that the great majority of cases follow scarlet fever, diphtheria, typhoid fever, middle-ear suppuration, or other infective processes—the conditions in which we would expect to find infective germs in the blood.

As predisposing causes we have any condition which will lower the resisting power of the body, exposure to cold, poor food, bad ventilation, etc.

A clinical picture of acute osteomyelitis is the same as of any other acute suppurative inflammation modified by being surrounded by bone. This accounts for the excessive pain. Pain is one of the first symptoms, often appearing before the chill. It is of a peculiar excruciating, boring, throbbing character. It is always present, except in cases of profound sepsis, in which the patient passes into stupor and collapse. It is usually not limited to the point of infection, but may be referred to a neighboring joint or throughout the whole length of the bone infected. In other words, it may be referred to any part of the distribution of the nerve which supplies the point of disease. The pain will correspond with the amount of tension, and seems at times to bear a relation with the height of temperature. As the tension increases, corresponding to the pouring out of the exudate, the pain increases, until the surrounding bone is perforated and the inflammatory products escape into the soft tissues, when it immediately becomes less.

The location of the pain should always be studied carefully, as it is one of our best guides to the point of disease.

Tenderness over the point of disease is always present, and by its careful study we are enabled to locate the tissues involved.

The point of greatest tenderness is where the disease is nearest the surface, and the places at which we open the bone in an early operation. Tenderness is seldom, or never, absent.

Swelling may be absent during the first few days of the disease, or until such time as the soft tissues become involved, when it extends very rapidly, involving all the surrounding tissues, giving the feeling of deep-seated fluctuation. It is very liable to extend to tissues at a distance from the starting point, even involving the whole limb. This is due to the direct involvement of the veins, producing thrombosis and extension along their channel.

In neglected cases the involvement of the soft tissues is often very extensive, separating the muscle planes, and most frequent of all, separating the periosteum from the bone, so that the entire shaft may be denuded and surrounded by pus.

Involvement of a neighboring joint may take place. It is liable to be simple in the early stages of the disease, while in the later stages it is more often septic, and then becomes a very serious complication. The nearer the joint the original focus, the more danger there is of the joint becoming involved. The temperature is usually high in the commencement, showing great variation, as it does in all acute suppurative processes.

The pulse varies with the temperature, and is the best indication of the amount of infection, being rapid and weak when it is great, regardless of temperature.

The pathology of the disease has already been suggested, in that it attacks the long bones most frequently, but may attack any bone.

Beginning in the cancellous structure it quickly destroys the tissues, involving all the structures, blood vessels, nerves, and bone, extending in the path of least resistance, so that the entire central canal may be involved before it breaks through the more solid outer layers of the bone. When it does so, it at once strips the periosteum from the bone, often to the entire extent, thus destroying the nutrition of the denuded portion, which dies and forms so-called sequestrum. The inflammatory material breaking through the periosteum involves the soft tissues, as before mentioned, and eventually opens on the surface, affording an exit for the pus.

If the patient has sufficient resisting power, and develops immunity to the toxines of the disease, repair will begin and new bone form on the inner surface of the separated periosteum, forming a complete incasement to the necrosed portion, making the so-called involucrum, which is usually much more dense than ordinary bone, but is occasionally found to be porous, with large cellular spaces. This involucre in time will become so strong as to bear the weight of the body, being perforated in one or more places, which correspond to the openings in the periosteum that afforded exit to the pus and communicate with the surface of the skin. In a few cases the whole thickness of the bone will be destroyed before any new bone has formed, resulting in a so-called fracture. The necrosed bone lies in a cavity surrounded by granulations on the inner surface of the new bone.

In the majority of cases there is no difficulty in making a diagnosis, if care is taken, but in a few cases, with the greatest care, mistakes are made.

The septic condition induced by the disease is most likely to be mistaken for typhoid fever. So closely do they resemble each other at times, that the most experienced have been mistaken, and the condition only made out on post mortem.

When once a diagnosis is reached the same principles guide us as in all septic conditions. Remove all the infected material, if possible; if not, give it free exit by drainage. In the majority of cases the process can be cut short by a timely operation. A case that would undoubtedly destroy the greater part of a long bone, and, perhaps, the patient's life, may be ended by the removal of a very limited amount of tissue. In such early operations, where there is only a limited amount of structure involved, repair will quickly take place and without damage to the functions of the bone affected.

But if destruction of bone is great, as in cases of long standing in which there is formed an extensive involucre surrounding a large piece of dead bone, perhaps the whole shaft of a long bone, the cavity, after removal of the disease tissue,

will be very large. It the large cavity is left to itself it will be a long time in filling up.

Many methods have been adopted to shorten this time, such as filling up the cavity with bone chips. This would be of great value if the cavity could be made aseptic, which usually is not possible. Perhaps the most useful method is the covering of the floor of the cavity by a skin flap after healthy granulations have formed. Making an osteoplastic flap of one side of the involucre so as to displace it unto the cavity has been tried, and in cases in which it is possible will give the best results.

A case which I present here may illustrate some of the points mentioned. His history is in brief as follows:

About two years before he first came under observation he had what was undoubtedly an ordinary attack of osteomyelitis of the tibia, which, being neglected, after a time opened on the surface and continued to discharge from a number of sinuses. A short time before, his clavicle was attacked in the same way. A portion of the involucre which surrounded the tibia was incised and the entire shaft removed. No attempt was made to fill up the enormous cavity left. The dead bone in the clavicle and sternum was simply curetted away.

About six weeks after the operation on the leg he had an acute attack of osteomyelitis affecting the humerus, which was at once opened and the diseased medullary structure removed. This cut short the attack without loss of substance, more than about three inches of the cavity of the bone.

Some time later he had still another attack, affecting one of his ribs, which was dealt with in the same way.

This ended the active manifestations of the disease.

In this case we have first to consider the result of neglect in the destruction of the long bone, the involvement of secondary centers, which were promptly relieved by timely operations, and, finally, we see what nature can do in repairing and overcoming such a defect as was here manifested.

The cavity was nearly two years filling up.

THE REGENERATION OF TISSUES.

By W. P. Wherry, M.D., Fort Wayne, Ind.

ONE of the most interesting and important studies that can engage the attention of the modern surgeon is that of the regeneration of tissues. The great monuments that mark the advances of surgery are placed at the points where the ligature of arteries, the use of anaesthetics, and the aseptic method of operating were introduced in practice. The utilization of the microscope promises to furnish another important landmark in surgery. It will reveal to us the ultimate possibilities in the direction of the regeneration of the tissues. And reinforced with this knowledge surgery will begin a new and grander career of beneficence.

We are familiar with the facility with which the dermal appendages are reproduced. We have experimented a good deal in reproductions of skin, and we get rid of many unsightly scars from burns and ulcers by skin-grafting and other measures promoting a more cosmetic regeneration. The time is, perhaps, coming when the ugly cicatrix will be as obsolete in good surgery as suppuration after operations.

The reproduction or regeneration of the soft parts of the body is not limited to the skin, the muscles, the fascia and ligaments and other fibrous soft tissues. It also includes cartilages and bones, and the methods for effecting their restoration are practiced every day. We cannot very often reproduce a whole bone, unless it be a metacarpal or the terminal phalanx of a finger, but we should not rest content with the present measure of bone regeneration. It has been demonstrated that bony tissue from other animals may be utilized in the replacement of human bone. The surgery of tendons and nerves attracted considerable notice some twenty years ago, but the whole subject is worthy of being studied again with the aid of the microscope.

The frame of the body is not all of it that is amenable to regenerative repair. The journals of medicine contain reports on the repair of brain tissue and the reproduction of genuine cerebral cells to replace the original cells that were destroyed. In the eye an analogous process has been noted. Accounts have also been furnished of the reproduction of the liver tissues, and claim is made that the spleen and kidney can, to some extent, be regenerated after removal by operation of parts of these organs. After oophorectomy, likewise, the ovarian tissue is partially reproduced in many cases. We need not despair of the regeneration of even the crystalline lens.

The blood is denominated a "fluid tissue"; and it, like the other tissues, illustrates the process of regeneration. We can artificially influence the relative and absolute numbers of the red corpuscles and of the leucocytes, increasing and diminishing them. But it can hardly be said that we have studied the regeneration of the other constituents to the blood with a view to practical results. There are yet other fluids in the organism that well deserve our most careful research in regard to their regeneration, such as the lymph, the synovia, and the liquor cerebri. Possibly we shall find in these two, material for the reformation of many of the more solid tissues.

In connection with this subject, it is proper to study the physiological equilibrium of the organism. We have several examples of nature's method of substituting one organ, or one process, for another, so that the life and health of the whole body may be continued. For instance, the spleen may compensate for the thyroid gland, or the perspiration process for that of diuresis. Thus it happens that structure may be substituted for structure and function for function, and the observing physician should take advantage of all such facts. The modern views regarding the cell and its contents would largely help the student engaged in research and the practitioner applying the results of such study to the repair of lesions. The essential thing constituting a

cell is the specialized protoplasm in the nucleus. The cell wall is of no particular importance. The protoplasm is really and practically the cell, and it is with it that medicine has to deal. Now, the peculiarity of protoplasm is that it possesses a faculty of indefinite vitality under favorable conditions. In such circumstances it might live forever and multiply itself indefinitely. It is this property of protoplasm that makes regeneration of tissues possible, and that renders operative surgery remedial. If with aseptic precautions we could oftener employ the knife to remove diseased or injured tissues, and could manage this in such a way as to allow of the regeneration of the lost parts, we should have achieved the crowning miracle of surgery. To some extent, surgery does accomplish this miracle, and it will have greater triumphs when it employs the microscope before, during, and after its operations as a regular routine. The peculiarities of the process of repair in each class of tissues demand a separate study; or, in other words, the peculiarities of the specialized protoplasm that constitutes the tissue in question. It is often taken for granted that the karyokinesis of all tissue cells is identical. Yet this is very far from being the case. There are as many peculiarities in the physiology of the cells of different tissues in the same body as of the various plants found in the same conservatory. I can here contribute nothing to the science of regeneration, but only offer a suggestion to the student and a prediction of the future of surgery. The details depend on a vast amount of minute work in a variety of fields.

NEURONAL DEGENERATIONS AND AFFECTIONS COUNTERFEITING THEM.

By Chas. K. Mills, M.D., Philadelphia, Pa.

The cases to which I shall direct your attention will illustrate what is best termed neuronal degenerations and affections counterfeiting them. These are the diseases which are usually classed under other names in the ordinary text books. In other words, I shall present to you cases of systemic spinal disease so called, and cases too of probably some of the peculiar types of syphilitic disease of the spinal cord. Some of you who are members of the Pepper Medical Society will perhaps remember I delivered an extemporaneous address last year before that society, in which I spoke with regard to this method of classifying and naming diseases of this sort, and promised that I would illustrate clinically the idea embraced in this method. They are very common diseases, some of them at least, but of the three cases that I will show you this morning, two of them are unusual forms, and give us a good opportunity of presenting three cases of peculiar interest in connection with the discussion of this subject. I would entitle this lecture one upon amaurotic tabes, or the form of tabes with optic atrophy as its chief manifestation first; second, upon a case of spastic paraplegia in which the question of diagnosis is of peculiar interest, as I may not be able to decide absolutely where the case belongs—it is certainly, however, a case of spastic paraplegia; and third, a case of so-called amyotrophic lateral sclerosis with bulbar symptoms. You, having already some knowledge of nervous diseases, will see that from three such cases as this, one can get largely the symptomatology of the neuronal degenerative diseases, or what was formerly called the system diseases of the spinal cord.

Case 1.—W. S., age 21; Englishman, in America six years. Note that he is only 21 years old, a most interesting point in this connection. One of his most striking manifestations is almost complete blindness. He began to lose sight in the right eye about a year ago last August; during the last four months the left eye has begun to go. His sight went so slowly that the patient absolutely did not notice it. Pupils are between dilatation and contraction; little or no response to light; has iridoplegiari to a certain degree, also the peculiar condition which indicates optic atrophy. That is the history and main manifestations of the disease. He has had pains in his legs ever since he can remember; these pains are shooting or lancinating in character. The man's station is but little impaired; little incoordination. Absolute or almost absolute abolition of his knee jerk on both sides with retention of muscle jerk, not marked, however. No loss of sensation to pain or touch, and doubtless none to temperature; no retardation of the conduction of sensation. Denies syphilitic history. You have here the symptom picture of a case of tabes with certain symptoms present and some omitted. You have a clinical picture of the disease which is so frequently and so imperfectly described or designated as locomotor ataxia. In this disease the usual type gives you ataxia as a prominent symptom; in this case, however, it is not marked; neither is incoordination a marked feature of this case. He has probably the history of long existing pain, slight as to number, but severe. Cases have been reported by Raymond and Buzzard in which the pains of tabes have existed 20 and 40 years before the manifestation of tabes, or without any manifestation, and it is one of the practical points in this disease. The interesting point in this case is the existence of optic atrophy, the atrophy which accompanies degenerative disease. Another significant point is the manner of onset, one eye going first that it was a long time going, and so gradual that the patient did not notice it. This is a case of amaurotic tabes, so-called. Tabes is perhaps the best name for this disease; it is more general, and gives you a generic term which is applied to all varieties. Benedikt, of Vienna, has referred to cases of this type in 1881, and in 1887 he advanced other opinions which are probably not quite correct, that it was a law that the tabetic motor symptoms, no matter what development they had reached, vanish as soon as optic atrophy appears; that is, that in these cases of tabes with blindness, with disease of the optic nerve, beginning with ataxia and some shooting pains as the disease advanced and the patient became blind, the ataxia disappeared. This has been denied, and it is not true in some cases. We had a case in these wards which I thought confirmed this view; the man had some ataxia, became blind and after becoming blind he had less ataxia than before, but this was not absolutely determinative. It is hard to account for these cases, but the cases interesting to the neurologist comes of the mistakes in diagnosis which are often made. Many years ago I discussed these cases with Dr. Risley. Why it is that in certain cases you have the painful manifestations and the ataxia very prominent, and in other cases a group of symptoms like those in the present case, it is not easy to say. It is believed that these diseases are generally due to toxins, and it has been argued in most cases that the disease manifests itself chiefly with reference to the lumbar portion of the cord, which is the portion of the cord which is most used; but if you argue in this way a man who gets optic tabes should be one who uses his eyes most, and the history of this case would not carry this out.

Case 2.—H. D., age 49; born in Germany. First had pains in left legs eight months ago. A few months afterwards he felt dizzy and both legs and the left arm became stiff. He lost consciousness for a minute or two, and after recovering, the stiffness remained. His legs have gone on getting worse; his arm got better. When this trouble first began he saw double. Pupils small, equal, responding to light accommodation and convergence. Slight reddish gray degeneration of both nerves with slightly diminished retinal circulation. Has girdle sensation. Feels as if walking on rubber. Incontinence of urine. The man has a spastic gait and he seems at first sight to have a decided ataxia, but this a question. Station but little impaired. His knee and muscle jerk are much exaggerated; front tap is present; clonus of persistent type on both sides. Tendon and muscle phenomena plus. Has anesthesia in small circumscribed areas on his feet.

Case 3.—M. L., age 55, born in Ireland. Man's expression dull; all the lower elements of speech dropped out gradually until the man is unable to speak. Deglutition is greatly impaired. He has coughing and choking attacks

and a curious respiratory condition when attempting to swallow. Can open and shut his mouth. He has decided interference with the movements which are controlled by the glossopharyngeal and hypoglossal nerves, the motor vagus and also with the muscles supplied by the 7th. No ocular palsies, although there is a little unusual drooping of the lids. Arms and legs distinctly atrophied, a little clawing of the hands, a little spasticity of the elbows, arms and legs rigid and atrophied. Reflexes plus, no ankle clonus. Few or no sensory symptoms. Here we have the symptoms of bulbar paralysis; we have these plus atrophy spasticity, contracture, motor weakness or paralysis with incoordination, and without any sensory manifestations that we have elicited; muscle and tendon phenomena, plus knee jerk and the phenomena that go with it. You have in this case the second patient, plus bulbar symptoms.

EMPYEMA, WITH EXSECTION OF A RIB.

By W. F. Morgan, M.D., Leavenworth, Kansas.

In July, 1896, I was consulted regarding Yetta S., aet. twenty-six. The patient's mother gave the following history of the case: In April, '96, Yetta S. was treated for a very severe attack of pleuro-pneumonia. After four weeks of attendance her physicians stated that the disease had assumed a tuberculous character, and gave the usual unfavorable prognosis, and this was followed by the usual change of medical attendants. A few days before I was consulted, the physician then in charge had aspirated from the left side two quarts of extremely offensive pus and introduced a drainage tube between the seventh and eighth ribs, with marked amelioration of all the symptoms. There being soon a return of fever and other unfavorable symptoms, the physician proposed exsection of a rib under cocaine hydrochlorate, as he deemed it unsafe to give a general anaesthetic in the very feeble state to which the long illness had reduced the patient. Moreover, the empyema having seriously crippled the left lung, during the operation and the anaesthesia the patient must necessarily lie upon the right side, compressing the one sound lung and thus adding another disadvantage. But the patient, having suffered much in the previous aspiration of her chest under cocaine, positively refused to consent to a second trial of the drug, offering to assume the responsibility herself if chloroform was used; hereupon her physician resigned and I was employed and called Dr. J. L. Wever in consultation. Supported by his large experience, I yielded to the patient's request for chlorform. July 25, with a temperature of 104 degrees and steadily increasing, a pulse of 150 and very weak and with respirations about forty to the minute, it was decided to operate promptly, which was done with the assistance of Drs. J. L. Wever and son, and Dr. M. Thomas, who gave the chloroform in a careful and skillful manner. At one time during the operation the patient became quite livid, and the symptoms, as a whole, were of a character to cause much anxiety; however, we were able to complete our work rather satisfactorily, and having removed about an inch and a half of the eighth rib at the site of the former operation, and having removed about two pints of foul smelling pus and thoroughly irrigated the pleural cavity with sterilized water and a solution of hydrarg. bichlor. one to four thousand and later one to eight thousand, I closed the wound, leaving *in situ* a large drainage tube. At first the cavity was irrigated every day, and finally every two or three days, for five or six weeks, when the granulations having gradually filled the cavity, the tube was permanently removed.

The operation was done in the usual way, i. e., by first separating the periosteum from the rib to the required extent—in this case about two and a half inches—and an inch and a half of the rib cut out with strong bone forceps.

The exsection was followed by the usual happy results when a large amount of foul pus is let out of the body. There was a prompt decline of fever and great amelioration of all the unfavorable indications.

For the past year the patient has done housework and at this writing, Nov 1, 1898, her health is nearly as perfect as it was before the long illness just described. The form is as erect as ever and there is no perceptible difference between the two sides that can be seen when the patient is dressed. The chest is symmetrical and the interval between the ends of the rib has been reduced to less than one inch. There seems very little doubt that had this operation been delayed a day or two longer, the result would have been fatal.

DIABETIC GANGRENE.

Aug. 4, 1897, I was asked to see H. J., aet. 59. I was told that the attending physicians had advised amputation of the patient's leg in consequence of diabetic gangrene of the little toe, implicating the superficial dorsal tissues of the foot. The patient's family, being very reluctant to consent to an amputation, decided to seek furher medical advice. As the general condition did not seem alarming nor to require such radical treatment as was proposed, I accepted the case and again called Dr. J. L. Wever in consultation, the result being the adoption of more conservative measures than those advised by our predecessors. As frequently happens in diabetic gangrene located as in the case of H. J., the exciting cause was the careless trimming of a "soft corn." I removed the little toe at the first joint, and all the other dead tissue upon the dorsal surface of the foot, and then made several free incisions upon the dorsum of the foot, extending from near the ankle to the base of each of the toes, and dressed the foot in mercuric chloride, one to five hundred, and finished by a free application of a 15 per cent. solution of bromine. We then gave our patient suitable treatment for the diabetic diathesis.

There was prompt improvement until Aug. 25, when, owing to a further extension of the disease to the meta tarsal bone, it became necessary to remove it at its articulation with the cuboid. This second operation was followed by steady improvement and a decline in the amount of sugar in the urine from 10 per cent. to 1.3 per cent. At present, 15 months after the first operation, the patient seems in better health than for several years past. The great constitutional gain in this case is attributed chiefly to the comparative docility of the patient, which enabled us to reform to a large extent his habit of excessive eating and drinking. So far as I could learn, he rarely, if ever, became intoxicated, but drank too freely of light wines and beer. He was a heavy man, ordinarily weighing about 225 pounds, and during the first few days of my attendance, would frequently drink, during the night, a gallon of cold water and lemonade. And some time previous to my attendance he drank in one hot night, to relieve the insatiable thirst caused by a very profuse diaphoresis, seven quarts of Regent Springs water! It was not unusual for him to pass a gallon of water from his bladder during the night. He informs me that at present he drinks no more, and passes no more fluid, than the average man, and his clearer skin and brighter and more cheerful face corroborate his statement. There was much rejoicing over the happy result in this case, as the previous medical attendant had insisted that unless amputation of the leg was promptly performed, death would be the almost inevitable result.

CASE OF RECOVERY AFTER FIVE GRAINS OF ATROPINE SULPHATE.

By N. A. Goddard, M.D., Spokane, Wash.

The patient was a young Hollander about 23 years of age, serving in the capacity of orderly in St. Joseph's Hospital, St. Paul. Against the strictest of orders he went to the drug rooms and weighed out what he supposed to be five grains of antipyrine; this he intended to take for a headache from which he was suffering at the time.

He took the powder dry on his tongue, following it up with a glass of water. This was at 12 noon. At 12:20 p. m. I was called to his side by one of the nurses and found him staggering about the room. His pupils attracted my attention at once, being dilated to the utmost. His face and hands were exceedingly red and he could scarce articulate. Five minutes later he became unconscious. His breathing was labored and heavy, about 30 to the minute. His pulse was small and weak and his skin was hot and dry. Not a particle of moisture could be felt in his mouth or on the conjunctiva. In this condition he remained for eight hours. The first signs of awakening were twitching of the eyelids, followed by movements of the hands and feet and efforts at talking, which he was

unable to accomplish. Some ten hours later he was resting comfortably, could talk in a whisper, could discern objects and faces. At this time he was catheterized and six ounces of a reddish colored urine obtained. The temperature was taken two hours after the drug was taken and was 102 degrees F.; six hours after taking the temperature was 104; 18 hours after taking temperature was normal and 24 hours after it was 102 degrees F.; but dropped to normal in the next two hours.

The subjective symptoms were slight nausea immediately after swallowing the powder; dizziness, which rapidly increased; haziness before the eyes, which seemed to impart a ruby glow to all objects; this symptom prevailed some five hours after the patient regained consciousness; numbness, beginning in the toes and rapidly creeping up, the entire body being anasthesic. On awakening the most prominent symptom was intense thirst.

Treatment consisted of the immediate use of stomach pump. Stomach was then washed out with solution of tannic acid, a gallon being used in all. At same time patient was given strychnine sulph. gr. 1-20 hypodermatically. Fifteen minutes later this was followed by morphine sulph. gr. ½, which was repeated four times in the next six hours. Later on he was given two or three doses of pilocarpine gr. 1-10 hypodermatically. The day following the patient was dressed and about the house complaining of slight headache and general weakness. Two days following the taking of the poison he was back at his work. Since his recovery he has become neurasthenic, has been suffering from dyspepsia and his heart's action is noticeably weakened.

Intravenous Injections of Normal Saline Solution.—Prof. Horace Tracy Hanks recently read a most interesting paper upon this subject, illustrated by reports of clinical cases, before the Woman's Hospital Society, New York. He says:

I am in the habit of using regular and systematic intravenous injections of the normal saline solution, at a temperature of 115 degrees F., using from one pint to three quarts, as may seem to be demanded by the effect produced, if the patient has lost much blood. The pulse should be watched during the transfusion, and when the desired tension is restored the injection can be stopped. The same can be repeated again in four to twelve hours if occasion demands. If a chill follow, too cold fluid has been used. No anxiety need be felt, however, as a hypodermic injection of morphine with a little brandy quickly enables the patient to resume her normal condition again.

I am in the habit of using intravenous injections of the normal salt solution for loss of blood from any cause, from severe traumatism, and for the early stage of sepsis after an operation, and for the suppression of urine, and obstruction of the bowels from paralysis. I would not omit other methods of restoring the kidneys or bowels to their proper normal condition, but I am convined that the restoration of the heart's functions and of the pulse tension is the most important end to gain in order to avert the danger which is imminent, when such symptoms are present.

I believe that we should use the rectum as a channel to receive the nutrient and stimulant injection as much as its capacity for absorption.

The normal salt solution, sometimes called the physiological salt solution, because of its close resemblance to the serum of the blood, is made by dissolving 90 grains of pure chloride of sodium (common salt) in 33½ ounces of distilled water. The common, every-day formula, which is convenient to remember, and correct enough for all practical purposes, is a common sized teaspoonful of table salt and one pint of pure water, the whole to be boiled for one-half hour and filtered through several thicknesses of a sterilized towel, and kept in a closed bottle, well corked with cotton, and this cotton properly protected with a bit of clean gauze.

"Before beginning an operation a two-quart bottle should be filled with this solution, and kept hot with hot towels or water around it.

I have found that a hot towel placed about the vessel holding the salt solution is convenient, and by turning hot water on the towel the temperature may be kept at 115 degrees F. easily. If the solution becomes too cold the patient will often suffer from a chill. A temperature of 115 degrees to 118 degrees F. serves me best. A graduated quart bottle, holding the fluid for transfusing, is, of course, the ideal vessel. This, with a suitable rubber tube, about three or four yards in length, and a shorter one, one foot in length, the two connected by means of a glass tube and a stop-cock for shutting off the flow, are required.

The instrument for insertion into the vein is an aspirating or hollow needle, two millimeters in diameter, seven or eight centimeters in length, made with a probe point for insertion into the vein, and the opposite end ground to fit the rubber tube. It is best that the distal end of the needle, the probe end, which is to enter the slit in the vein, be smaller, or about 1½ millimeters in diameter, thus allowing the free flow of the solution toward the heart.

The opening in the needle near the end need not be so large as to weaken it. The practical surgeon will always have a sterilized two-quart fountain syringe, with proper attachments, kept in a sterilized towel in the bottom of his bag of surgical instruments, ready for use. And this inexpensive substitute is always at hand, and, with a little careful watching by one of the assistants, is equally as useful as the graduated bottle described. I never think of doing any severe or any long-continued operation without having this rubber fountain syringe within reach. . .

In over 20 patients on whom I have used intravenous injections, I have had no accidents, and only three cases where the injection was followed by a chill, and all of these were quickly relieved with morphine and brandy hypodermically. Two of these were, and had been, undoubtedly septic for several weeks before coming to the hospital. I believe that the saline solution acted so decidedly as a stimulant, directly and indirectly, to the heart, that they were able to fight the septic conditions successfully, for they both recovered.

I believe that my success in the Woman's Hospital during this past year, which has been most satisfactory, has been largely due to the use of normal saline solution in my desperate cases, and my methodical stimulation of every operative case before she comes to the operating-room.

Patients so cared for come to the operating-table without fear, with a good pulse, and with a flushed face. They take the anesthetic kindly and quickly, and recover as quickly. They have little nausea and vomiting, and are not so thirsty, restless, and complaining as my patients were formerly. . .

In conclusion, let me urge the importance of:

1. Proper preparation before an exhausting operation, by systematic stimulation or by intravenous injection.
2. Intravenous injections of two quarts or more of normal saline solution after dangerous hemorrhage.
3. Intravenous injection for bad shock, using full three pints or more of normal saline solution.
4. Intravenous injection for remarkably feeble pulse after, or even before, operation. (Use from one to three pints.)
5. Intravenous injection for septicemia; especially when an operation is decided upon. Use from one to two pints and repeat if bad symptoms return.

Let me also urge all surgeons to teach their assistants how to insert the transfusion instruments, and to properly close the wound when the operation is completed.

I am sure that no minor operation will ever bring better results than the operation of intravenous injection in such cases as I have suggested.

Tracheotomy Under Local Anæsthesia.—Fraenkel (*Berl. Klin. Woch.*, June 16, 1898,—*Med R. of R.*.) speaks of the disadvantages of general narcosis for trachotomy, and especially of the danger of asphyxia; also of the dread which patients with chronic laryngeal stenosis exhibit toward the operation. During the last three years he has performed tracheotomy 23 times under cocaine anaesthesia, injecting the solution subcutaneously at several points. The immediate operation was successful, and the moral effect upon the patient was very satisfactory. While most of the cases were examples of chronic stenosis, there were two of acute oedema of the larynx. In four cases of tracheotomy in children, Fraenkel used a little chloroform before applying the cocaine. He emphasizes the fact that under cocaine the surgeon can take plenty of time to operate.

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God give us men! A time like this demands strong minds, great hearts true faith, and ready hands.

HOLLAND.

THE PATHOLOGICAL INSTITUTE OF THE NEW YORK STATE HOSPITALS.

IT is less than 20 years since the first psychological laboratory in this country was connected with any of our institutions. The idea was borrowed from Germany, and the first even partially equipped laboratory commenced its work under the auspices of the Clark University. Since that time four or five of the leading universities of this country have taken up the work and are prosecuting it with all the facility which delicate instruments and an ample supply of care can give. The present indications are that psychology, psycho-pathology and psychiatry will form important departments of study in all well equipped universities, and especially in medical colleges, normal colleges and teachers' institutes, as they unveil the greatest marvel of the universe—the human mind.

Several years ago, when connected officially with the State Hospital for the Insane in Middletown, we urged the establishment of a psycho-pathological laboratory in connection with that institution as a most important part of the working staff of the medical and scientific department. We believed this line of study would yield the richest results in unveiling the hitherto obscure causes of mental disturbance and of mental idiosyncrasies which did not amount to insanity. A laboratory of this kind, under the direction of minds trained to careful observation and critical thought would not only be of inestimable value in the classification and treatment of the severe forms of insanity, but would be of worldwide use in every avenue of our profession and in every department of education. The evolution of this idea into what promises to be the most complete and comprehensive psycho-pathological institute in the world, is due to the Commissioners of Lunacy in this State, whose work in this direction alone in establishing an institute on a broad scientific basis, which secures in the study of psychology and psychiatry the co-operation of all sciences, is one of the noblest conceptions of even this progressive age, whose influence in the evolution of the human race no one can estimate.

The Commissioners have planned for a larger work than they contemplated. The first idea was to establish an institute which should afford aid to all the State hospitals which would contribute the facts and furnish the material for investigation, but even in the inception of the work it became apparent that from the close relations which existed between disease and the brain functions, it would be necessary to go outside of the special field, in some degree, in order to get at the root of the matter; and so the line of investigation, as a matter of necessity, became more comprehensive until now, at the institute and laboratory, No. 1 Madison Square, we find in full working order, under the ablest scientific specialists which can be obtained:

1. A department of psychology and psycho-pathology.
2. Normal and comparative histology of the nervous system.
3. Cellular biology.
4. Pathological anatomy, bacteriology and physiological chemistry.
5. Experimental pathology and bacteriology.
6. Anthropology.

It will be seen how all these departments are linked together, and must be studied not only separately but in their influence on each other.

It has only been within the past 15 or 20 years that, thanks to the microscope, the obscurity which shrouded the nervous system has been in a measure dissipated, giving us a clearer idea of its functions. The magnifying powers of the lenses of the microscope are being constantly increased. Working with the microscope of to-day the unit of measurement is only 1-25000 of an inch long, but the compound microscope recently constructed by Prof. Elmer Gates increases the power almost beyond conception. What revelations the vastly increased powers of the microscope may unfold of nerve structure and nerve action will be a matter of future investigation, but it has already revealed enough to show many of the phe-

nomena of mind in sensation and nerve action. We have seen through the microscope that the nerve cell is like a tiny octopus, from one end of which springs out a large number of branching arms or tentacles, and from the other end a long arm or nerve fiber, which may pass to the outer parts of the body or to other parts of the nervous system, carrying messages from the sense organs or impulses from one part of the nervous system to another. These cells are arranged in groups of great complexity, the long arm of one touching the shorter arms of the second, and so on through an infinite set of combinations, which have their highest complexity of arrangement in the highest spheres of the brain. Suppose from exhaustion arising from many causes a mass of nerve cells break the circuit by retracting the short arms or tentacles, as they have the power of doing, a message can no longer be transmitted from one part of the system to the other, and a variety of phenomena are likely to occur, depending to a certain extent upon the location of the broken circuit. From these facts we have the clearest solution yet obtained of double consciousness, hypnotism, hysteria, catalepsy and all the great groups of psychopathic functional disease.

Future study may, and probably will, show how the nerve cells assimilate food, conduct nervous impulses and carry on their life operations. The solution of this problem, in which the cell is looked upon as a microcosm in itself, will be in the line of Virchow's forecast 50 years ago, that the ultimate study of disease processes, particularly in their beginning and essences, must be devoted to the cells themselves. However powerful the microscope is and may become, we must turn to physiological chemistry to fathom the depths and unveil the mysteries which the microscope alone cannot reveal. The isolation of the ptomain and leucomain poisons, through the skill of the chemist, has gone far enough to show that every moment of our lives poisons are generated in the body which are often overcome, if the person is in good health, by the strength of his vital power. Through physiological chemistry we can only learn the chemical composition of the cell, its reaction to poisons elaborated in the laboratory of the human system, and the way in which they interfere with the food supply of blood to the cells for the elaboration of their energy.

A Scotch philosopher has said: "In the world there is nothing greater than man, and in man there is nothing greater than mind." In the study of man, mental, physical and spiritual, all the sciences contribute their share in unfolding the mysteries of life and the trinity of the human being. The wider the field of investigation and the more light which can be thrown upon the character and generation of nerve force and the action of mind upon matter, the more surely will we be able to define the fitness of each individual for work for which he is best adapted mentally and physically. If Prof. Gates' theory of brain building is true, and it admits of scarcely a doubt, each faculty can be strengthened immensely by proper training, and directed into the proper channel to accomplish the most satisfactory results. The student can be directed in his studies, the laborer in his work, and the mind in elucidation of the laws of nature and directing them so as to bring out the strongest powers of the intellect and the harmonious action of the trinity of our being.

VEGETABLE OR MIXED DIET.

SINCE the days of the great modern apostle of a purely vegetable diet, Sylvester Graham, the vegetarian fad has made but little progress in this country, notwithstanding its efforts to base its conclusions upon the revelations of physiology. Physiology teaches most conclusively that a high standard of mental and bodily health requires the consumption of certain elements in definite proportions, but it teaches also that these may be furnished both by the animal and vegetable kingdom. There is no doubt but what, as a general thing in this country, we not only eat too much meat, but that we crowd the system with far more food than is necessary for it to perform its proper functions.

Sir Henry Thompson, who has been quoted as an advocate of an exclusive vegetable diet, in a recent number of the *Nineteenth Century* states clearly what he does believe on this subject. "Climate," says Sir Henry, "is an important factor in relation to food. Man, wherever he exists, has to maintain his body at a constant temperature of at least 98 degrees F.: and it is observed that enormous difference must exist between the needs of the individual who lives near the equator, with all surrounding objects at a temperature of from 85 to 95 degrees, and those of one who inhabits northern latitude, where it is constantly below the freezing point, often to the extent of many degrees. In each case the body must be maintained at 98 degees, or a little more, or man will cease to exist. In the large and populous zone we inhabit, which forms so extensive a portion of Europe, Asia, South Africa, America and Australia, and is known as the temperate zone, there are few persons who can maintain their health and strength on a purely

vegetable diet. In the light of these facts we must regard men as omnivorous, that is, possessed of a constitution which requires a mixed diet of animal and vegetable foods in relative proportions, varying according to temperature and activity of life."

Herbert Spencer, the great writer on sociology, has been quoted as a vegetarian, but when recently asked the question said, "I was a vegetarian for one year, but at the end of that time I went over all I had written during the year and consigned it to the fire." It is fortunate for us that the healthy organization generally indicates through the appetite the kind of food containing the elements most required to meet the wants of the system, and these wants depend to a very great extent upon environment, and the nature of the employment. The death rate in the United States is less than any nation in Europe except Norway. In the consumption of meat our country stands at the head of the list, showing a per capita consumption of 147 pounds, while in Ireland it amounts to only 36 pounds and Italy 24 pounds per capita. The per capita consumption of potatoes in Ireland is 1,407 pounds, or a daily average of 4 pounds to each person; in the United States 200 pounds to each person, and in Italy, 48 pounds. We have no doubt our diet could be very largely reduced in this country with advantage, but still we require, with our varieties of climate, a more nutritious diet than India, which consumes 200 pounds of rice per capita, while our consumption is only 111 pounds each person.

INCREASE OF MELANCHOLIA.

THE statistics of admissions into the insane hospitals not only in this country, but in Europe, show a diminution of percentage of acute mania and an increase in the percentage of melancholia. It will be remembered that a few years ago an epidemic, to which was given the name of Grippe, girdled the world. Traveling from east to west, crossing oceans and continents its terrible effects were felt in almost every nation in the temperate and tropic zones. The cause of the epidemic has never been ascertained. By some of our ablest scientists it was attributed to electric disturbances in our atmosphere, produced by some action on the sun, shown by the dark spots on its surface appearing and disappearing with great rapidity. The after-effects of this terrible disease has been noticed by almost every physician. Dr. T. S. Clauson, superintendent of the Royal Edinburgh Asylum for the Insane, Scotland, in his report for 1896, accounts for the great increase of melancholia by the effects of the grippe upon the nervous system.

Dr. Talcott, in his annual report of the Middletown State Hospital for the Insane, coincides with the opinion of Dr. Clauson and says: "As far as our observation in this country extends, the primary effects of the grippe have gradually disappeared, but they have left impressions on the nervous system like those of a cyclone in the forest or a sand storm in the desert. The great nerve trunks are torn up, so to speak, and prostrated by the sweep of disease; and that, too, beyond the power of help from every recuperative force. We find also in many instances the finer filaments of the nervous system have been pulled by the grippe into an abject condition of chronic and unrecoverable disease. The storm shocks that produce such pathological states in the most sensitive and delicate portions of the physical organization establish likewise a condition of desolation, ruin and despair within the hitherto serene habitation of the human mind. This cause is undoubtedly one of the great factors in the large increase of cases of melancholia which are sent to our hospitals for treatment."

Dr. Talcott's sermon, in the same report, in which he attributes one of the great causes of insanity and distracted, or partially unbalanced, intellects in childhood and after life to the teachings of the pulpit, the Sunday school and erroneous home training is much more sound and practical than much of the teachings we were accustomed to hear from the pulpit. We say, were accustomed to hear, for the doctrines of hell, fire and damnation are fast being relegated to the past. The element of fear is being supplanted by that of love, which blends with the service of the sanctuary, the teachings of home, and is becoming more and more a part of the rule and the working of our daily lives. In theology as well as in medicine, the heterodoxy of to-day becomes the orthodoxy of to-morrow. Every year the great lines of thought, guided by scientific investigation and experience, converge more and more towards one broad highway, every milestone of which marks a more complete evolution of that great law of harmony and love which is the underlying principle of life, and even of creation itself.

IT is stated that nine of the leading homœopathic practitioners of Cleveland, O., have dropped the sectarian designation, and will hereafter be known as *physicians!* Let the good work go on until we have but one school of medicine.

COL. WARING.

IF this city owes a lasting debt of gratitude to Col. George E. Waring, Jr., for his energetic and most efficient service in his sanitary work in New York, he has placed the nation under a still more lasting obligation for his work in Cuba, which should be met as far as is possible by an act of Congress granting a pension to his family. Holding a commission in the civil service, Col. Waring's death would not be included in the pension list of the army and navy, but who in the army and navy has done better work or encountered greater peril? The commission of which Col. Waring was the head was sent to Havana to devise some plan to improve its sanitary condition, and thereby rid the western continent of one of its worst breeding places of yellow fever. In the prosecution of his work Col. Waring was indefatigable, visiting without hesitation the most poison-tainted localities in the city, and formulating a plan which will undoubtedly be adopted by government, which will rid the island of a pestilence which has not only been its scourge for hundreds of years, keeping back its progress, but a menace to the health of the adjoining islands and the United States. The public gratitude for the work Col. Waring has accomplished, and in the prosecution of which he lost his life, should be met by some more substantial reward than votes of thanks, or monuments of bronze or marble. We look to Congress for an act which will place the family of the hero in a position above pecuniary want.

A SIGN OF THE TIMES.

A SIGNIFICANT fact showing the levening influence of scientific truths, as it regards living, upon the community is seen in the greatly diminished death rate among children under two years of age, and the stronger physical and mental development in youth and middle life. The young parents have learned the lesson through the painful experience of their own childhood, the exposure, the lack of care, not from lack of parental love, but ignorance of the laws of life, of the necessity for a more intelligent treatment of their offspring. We are quite safe in the statement that the death rate among infants or children under two years of age is not one-half what it was twenty years ago, and this is owing in part to the greater purity of food, its better adaptation to the different conditions of life and most of all to the care in public and private with which milk, which constitutes so much of the food of childhood, is guarded and its purity insured. Other factors in this wonderful reform are the greater care taken by the mother during her pregnancy, the general intelligence in judicious clothing of the child, and in correcting childish ailments with a careful adaptation of food or simple remedies, instead of the crude dosing of the past. Verily the babies' millennium is not far off!

THE LAUGHTER CURE.

WE have all heard of the patient who, while nearly suffocating under a bad attack of quinsy, laughed so hard at some ludicrous incident, that the abscess broke and he recovered forthwith. Dr. Russell H. Conwell, the noted Philadelphia divine, in his popular lecture, "The Jolly Earthquake," illustrating the value of laughter as a therapeutic agency, tells about a similar but far more remarkable occurrence, as follows:

"A man was suffering from that most dreaded of all diseases, hydrophobia. Attendants held him to the bed, that he might do no harm to himself or to other members of the family. The death dew was already on his forehead and the family had been called in to witness the last sad agony. His sister, in her excitement, brought with her to the room her little three year old boy, not noticing what he carried with him. At the bedside the litle fellow, wishing to contribute as best he could to make his uncle's passage a peaceful and happy one, held up a gayly-painted jumping-jack, working it most energetically. The poor sufferer, in a lucid interval, catching sight of this rather novel form of entertainment at the deathbed, began to laugh, laughed long and loud, and at last exhausted, sank into a state of deep unconsciousness from which he soon awakened asking for water. The danger was over. The disease had succumbed to a laugh. Dr. Clark, of Bellevue, who first related the story adds: 'It would be better for many patients if they had jumping-jacks for their doctors.' "

"LET HIM GET WELL."

DR. W. W. Keene, of Philadelphia, *The Critique* informs us, in discussing appendicitis at the Denver meeting of the American Medical Association, concluded his remarks as follows:

"I protest against the use of opium, except in rare cases, as it has a tendency to mask the symptoms of the disease and leads the patient to the grave. I protest against the argument of Dr. Niles, that every case ought to be operated upon, and the appendix is never to be left. Out of 300 post mortems on as many bodies it was found that 100 of the individuals had had appendicitis at some time in their lives and had all recovered from the disease. I dispute the assertion that

through surgical operations all but two per cent. of the cases can be saved. I challenge any operator in the room to take 100 well persons and operate upon them without killing more than 2 per cent. We all fail, gentlemen. I do not know why, but we all fail. I do not believe in operating on all cases of appendicitis. I'd rather have a live man with an appendix than a dead man without one. (Applause.) I do not believe with the witty Frenchman that no case is complete without an autopsy. (Laughter.) If the patient is no worse after forty-eight hours of observation, let him alone; let him get well."

THE HEALTH CORDON.

WITH the imporant new relations established with Cuba and other fever localities to the south, the government will take steps during the winter months for such an efficient circle of protection around the country, that there will be but little chance for the reintroduction of yellow fever. At the same time the points of infection in Cuba and elsewhere will be so improved by sanitation and guarded by quarantine, that the main source of danger will be removed. The results of intelligent work are already seen in Santiago, where under the administration of Dr. Wood not a single case of yellow fever has occurred in 60 days; while Havana, still under Spanish control, is full of the pestilence. A force of five experts will be stationed throughout the island to report on the condition of contagion and the appearance of any new attack. There are already four of these experts in Havana and one in Santiago. The work of two of the experts, Drs. Wesdin and Geddings, is particularly important, as they are especially appointed by the President as a commission to ascertain the causes of yellow fever. The appointments were made about a year ago, and the experts have opened laboratories and conducted their inquiries at New Orleans and at Havana. In their preliminary report Surgeons Geddings and Wesdin state facts which practically sustain the Savarelli theory that yellow fever is the outgrowth of a certain organism. Surgeon Geddings found in his experiments that 76 per cent. of the yellow fever culture had the organisms described by Savarelli, and recommends that as the bacillus interoids of Savarelli is indicated to be the cause of yellow fever, experiments be made with the lower animals with the Savarelli toxine. The work already done gives promise that the complete investigation will be a marked contribution to the problem of preventing and curing yellow fever.

THE *Public Health Journal* for October has the following clever satire on the "Triumph of Modern Surgery":

They sawed off his arms and his legs,
They took out his jugular vein;
They put fancy frills on his lungs,
And they deftly extracted his brain.
'Twas a triumph of surgical skill
Such as never was heard of till then;
'Twas the subject of lectures before
Conventions of medical men.
The news of this wonderful thing
Was heralded far and wide;
But as for the patient, there's nothing to say,
Excepting, of course, that he died.

THE secret of Gladstone's long life, with a clear intellect unto the last, the *Lancet* thinks, was in a measure due to the fact that he was not only able to sleep easily, but that he was always ready to abandon even the most urgent task and to lie down and sleep then and there when he felt really fatigued. The same could be said of the late Dr. Pepper, in his being able to accomplish as a physician, author and teacher an almost incredible amount of work with such perfect ease and with such marked ability. The mind refreshed by a few minutes' sleep awoke to action as keen and sensitive as ever. Perhaps there is no profession in which there is so much uncertainty as in ours, and there is certainly none in which there is so much worry and vexation. The fatigue of the brain from long continued labor, unattended with much worry or startling shocks, produces but very little wear and tear. It is the worry and shock which fatigue and weaken the brain cells and necessitate frequent rest. The hard working physician will do better work and live longer if he accustoms himself once or twice a day to a little sleep.

DR. WILLIAM SMITH, osteopathist, demands $25,000 from the *Medical Age* for defamation. The *Age* says:

"Pray do not fancy, however, that William Smith and osteopathy are to be lightly dismissed with the contempt that they merit. There is no use in blinking the fact that the lack of efficient organization amongst reputable medical men has permitted the whole brood of quacks and charlatans to flourish apace. By the strangest irony of fate, osteopathy, in some respects the most grotesque of medical aberrations, has well illustrated Lecky's dictum that a small but cohesive and determined minority can exert a political influence wholly disproportioned to its real weight and numbers.

"In Kentucky, thanks to the resolute leadership of a handful of physicians, ably guided by Dr. Matthews, the osteopaths have been driven from the State. Not so, however, in Missouri, or—I blush to say it—in Michigan, Vermont, North Dakota, South Dakota, Illinois, Colorado, and North Carolina (*American Medico-Surgical Bulletin*). In these more lax and indulgent communities osteopathy boasts its numerous followers, its "schools of instruction," its periodicals of propaganda, its political influence in legislation, its shameful immunity from the penalties by which society properly seeks to rid itself of quackish parasites.

"Emboldened by its success, osteopathy now enters the courts and offers battle to a medical journal which disputes its respectability. The challenge is accepted. In the interest of science, in defense of ethical and honorable medicine, in defiance of a quackery that constitutes a deep disgrace to an enlightened age and a stain on the communities which give it shelter, the *Age* proposes to maintain its position and to continue its denunciations of the ignorant pretenders who fatten on the sufferings of the credulous and confiding."

The *Medical Age* will have the sympathy of respectable medical men, and there can be no doubt of the result in the case.

BIBLIOGRAPHICAL.

AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine, etc. Containing the Pronunciation and Definition of over 26,000 of the Terms Used in Medicine and the Kindred Sciences, along with over 60 extensive tables. Philadelphia: W. B. Saunders. 1898. Large 16mo. Pp. 518. $1.25.

The editor of this little book has attempted to improve on all previous work of this class, and he has succeeded at least in bringing his vocabulary up to date, which is absolutely essential in this rapid period.

Besides the words there is much matter in tabular form which will prove of value to students and others.

MANUAL OF CHEMISTRY. A Guide to Lecturers and Laboratory Work for Beginners in Chemistry. A Text-book Specially Adapted for Students of Medicine, Pharmacy and Dentistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, in the Maryland College of Pharmacy, and in the Baltimore College of Dental Surgery. Sixth edition, thoroughly revised. With 46 illustrations and 8 colored plates, representing 64 chemical reactions. Lea Bros. & Co., Philadelphia and New York. 1898. Pp. 536.

This book, having reached its sixth edition, has the stamp of professional approval of its existence. The reviewer has only to note that the text has been revised to keep pace with the progress which has been made since the last edition was published. We may repeat what we have said before, that it is the work of an experienced teacher, for the use of his students, especially in the laboratory.

THE ESSENTIALS OF HISTOLOGY: Descriptive and Practical. For the Use of Students. By E. A. Schafer, LL.D., F.R.S. Jodrell, Professor of Physiology in University College, London; Editor of the Histological Portion of Twain's "Anatomy." New (fifth) edition revised and enlarged, with 392 illustrations. Lea Bros. & Co., Philadelphia and New York. 1898. Pp. 359, octavo.

This is another of the popular, practical text-books for laboratory work, as shown by its numerical edition, and it supplies the student with directions for microscopical examinations. The book is divided into 46 lessons, which is a convenience in the class room, and the methods recommended are such as can be depended upon. The text is concisely and clearly stated. Just what is required for the purpose.

ARCHIVES OF THE ROENTGEN RAY (formerly *Archives of Skiagraphy*). The only Journal in which the transactions of the Roentgen Society of London are officially reported. Edited by W. S. Hedley, M.D., M.R.C.S., and Sydney Rowland, M.A., M.R.C.S., and a committee. London: The Rebman Publishing Co. W. B. Saunders, Philadelphia, American Agent. August, 1898, Number. $1 per part.

This publication shows the most advanced progress in the use of the wonderful Roentgen ray, and it will be of service to all who are interested in the subject.

The plates are splendid illustrations of what is being done.

OPHTHALMIC DISEASES AND THERAPEUTICS. By A. B. Norton, M.D., Professor of Ophthalmology in the College of the New York Ophthalmic Hospital; Surgeon to the New York Ophthalmic Hospital; Visiting Oculist to the Laura Franklin Free Hospital for Children, etc. With 90 illustrations and 18 chromo-lithographic figures. Second edition, revised and enlarged. Philadelphia: Boericke & Tafel. 1898. Pp. 647. Price $5. Octavo.

The object of the author has been to make a concise practical manual for the use of students and practitioners, including the indications for the use of drugs, in the various affections to which the eye is subject. "Over 100 pages of new matter have been added, covering the following subjects, viz.: The Examination of the Eye; the Use of the Ophthalmoscope; the Hygiene of the Eye, a subject of every day practical value that has never before been written upon in any text-book of the eye; Refraction and Accommodation, two chapters that have been prepared by Dr. Charles H. Helfrich; A Tabulated Statement of Diseases, with more or less Characteristic Eye Symptoms, a most excellent resume of the eye in its relation to general diseases, prepared by Dr. E. H. Linnell, and many new and original illustrations prepared by Dr. A. H. Hart, including six chromo-lithographs illustrating external diseases of the eye, is an unusual and valuable addition."

The claims of the preface seem to be borne out by inspection, and no doubt the intention of the author to furnish the school to which he belongs with a reliable text-book have been accomplished.

AN AMERICAN TEXT-BOOK OF THE DISEASES OF CHILDREN, including Special Chapters on Essential Surgical Subjects; Orthopaedics; Diseases of the Eye, Ear, Nose and Throat; Diseases of the Skin; and on the Diet, Hygiene, and General Management of Children. By American Teachers. Edited by Louis Starr, M.D., Consulting Pediatrist to the Maternity Hospital, Philadelphia; late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc., etc. Assisted by Thompson S. Westcott, M.D., Instructor in Diseases of Children, University of Pennsylvania; Visiting Physician to the Methodist Episcopal Hospital, etc., etc Second edition, Revised. Philadelphia: W. B. Saunders, 1898. Large octavo. Pp. 1244. $7. By subscription.

In order to keep up with the rapid advances in the field of pediatrics, and to produce a more perfect treatise on the subject, it was necessary to make a complete revision, with 50 additional pages. The new articles include "Modified Milk and Percentage Milk Mixtures," Lithaemia, and a section on orthopedics. The result is an encyclopaedia. The list of contributors includes sixty-five of the best known men in the profession on their respective subjects.

As a treatise, in all respects it is ideal, not only as to the quality of the material, but in respect to the physical part as well.

AN AMERICAN TEXT-BOOK OF GYNECOLOGY, MEDICAL AND SURGICAL, FOR PRACTITIONERS AND STUDENTS. By Henry T. Byford, M.D., J. M. Baldy, M.D., Edwin B. Cragin, M.D., J. H. Etheridge, M.D., William Goodell, M.D., Howard A. Kelly, M.D., Florian Krug, M.D., E. E. Montgomery, M.D., William R. Pryor, M.D., George M. Tuttle, M.D. Edited by J. M. Baldy, M.D. Second edition, revised, with 341 illustrations in the text, and 38 colored and half-tone plates. Philadelphia: W. B. Saunders. 1898. Large octavo. Pp. 718. $6.

This thoroughly practical working text-book has reached its second edition within four years, in a well revised form, to accord with necessity. The text is relieved of much irrelevant and cumbersome matter by illustrations, which demonstrate and explain the anatomy better than words sometimes. The text is concise, clear, plain English, readable and interestingly stated. The revised edition is practically a new book, bringing the subject to the present time.

PRACTICAL DIAGNOSIS. The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M.D., Professor of Therapeutics and Matria Medica in the Jefferson Medical College of Philadelphia. Third edition, enlarged and thoroughly revised. In one octavo volume of 615 pages, with 204 engravings and 13 full-page colored plates. Cloth, $4.75, net. Lea Bros. & Co., Publishers, Philadelphia and New York.

Prof. Hare may justly feel proud that this cleverly executed work has reached a third edition in two years, and this fact has enabled him to make a thorough revision to accord with the times.

As we have said in a previous review, the plan employed in this work is the reverse of that usually employed, the *symptoms are given first*, just as they are found in practice. Prof. Hare arranges his work in two divisions: "The Manifestation of Disease in Organs," and "The Manifestation of Disease by Symptoms," the first part being under a regional classification, and the second dealing with general symptoms, such as fever, headache, vomiting, pain, etc. Obviously, on the discovery of a symptom, the reader has the most rational and easy reference to the description of all the diseases in which it may appear, and if the selection is not at once clear, it may be determined by similarly referring a second or third symptom to the text for confirmation. The ingenious and copious index consummates the facility with which "Hare's Diagnosis" may be used. Under each disease is given a list of its symptoms, and under each symptom a list of the diseases in which it occurs, so that the reader, on the discovery of a symptom, has a suggestion of all the diseases in which it occurs, and, for confirmation, under the various diseases he has brought to his attention the other symptoms to be looked for. The book is richly and usefully illustrated.

PATHOLOGY AND MORBID ANATOMY. By T. Henry Green, M.D., Lecturer on Pathology and Morbid Anatomy at Charing-Cross Hospital Medical School, London. New (8th) American from the eighth and revised English edition. In one very handsome royal octavo volume of 600 pages, with 215 engravings, many being new and a colored plate. Cloth, $2.50 net. Lea Bros. & Co., Publishers, Philadelphia and New York.

The new edition of Dr. Green, which has always been a leading text-book, shows a revision and rearrangement on every page, in conformity with the advances of the subject. The series of illustrations are specially to be commended for their clearness and accuracy.

A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By W. S. Playfair, M.D., LL.D., F.R.C.P. Lea Bros. & Co. 1898.

Dr. Playfair's work has been so long a standard in our medical schools and the profession that it is only necessary to say that this, the seventh American edition, in all its departments is fully up to the present advanced thoughts and practices in the department of obstetrics.

DIE ERKRANKUNGEN DER NIEREN von Prof. Dr. H. Senator, in Berlin. Specielle Pathologie und Therapie, herausgegeben von Hofrath Prof. Dr. Hermann Nothnagel. Band XIX, I. Theil. 1896. 448 pp. Bound in paper. Publisher, Alfred Hoelder, k. und k. Hof-und Universities-buchhaendler; I, Rothenthurmstrasse 15, Vienna, Austria.

DISEASES OF THE KIDNEYS, by Professor H. Senator, of Berlin. Vol. XIX, Part I. of Prof. Nothnagel's Encyclopaedia of Special Pathology and Therapy.

Professor Nothnagel Senator, of Berlin, is recognized as one of the chief authorities in the world on diseases of the kidneys. His investigations of the subject of physiological albuminuria have settled the question of the relation of albuminuria to actual Bright's disease, or at least have gone a long way in that direction.

This work is a number of Nothnagel's encyclopaedic work on general medicine which is being issued by the firm of Alfred Hoelder, of Vienna, Austria. It is divided into two parts—a general and a special portion. In the former he, after a historical introduction, takes up the study of the signs and symptoms of renal diseases in general, as albuminuria in its various aspects and under different conditions, mucinuria and fibrinuria; cylindruria and the different kinds of casts; haematuria and haemaglobinuria; lipuria and chyluria as well as oxaluria and phosphaturia. The three last sections are devoted to the discussion of the subjects of dropsy, uraemia and the alterations of the circulatory system.

The special portion takes up the congenital defects, changes in position, renal neuralgia and then circulatory disturbances of the kidneys, as thrombosis and embolus as well as atrophy and hypertrophy of these organs.

He then opens up the broad subject of Bright's disease, which is classed under the heading, haematogenous, non-suppurative nephritis. He divides the subject into acute nephritis, with subdivisions of (a) haemoglobinuric nephritis, (b) cholera nephritis, (c) nephritis of pregnancy. The second class is the chronic diffuse, non-indurative nephritis, (chronic parenchymatous nephritis). The third is given under the heading, chronic indurative nephritis (contracted kidney), with a sub-class of simple, non-inflammatory atrophy, from stenosis of the arteries and senile atrophy.

Further chapters give consideration to suppurative nephritis, amyloid degeneration, fatty kidney, pyelitis and pyelonephritis as well as hydronephrosis. These sections are among the very best of the work, particularly those treating of Bright's disease in its varied forms. The neoformations of the kidney come next; cystic kidney, tuberculosis, carcinoma and sarcoma, which are fully and scientifically treated. The concrements of the organ occupy a separate chapter, the entozoa another interesting section, while para- and peri-nephritis, with anomalies of the renal blood vessels, conclude the work.

It forms a worthy number of Nothnagel's encyclopaedic work, the treatment of the subject being done in a very satisfactory and scientific manner. The subject matter is arranged concisely, exhaustively and carefully, with a due regard for the literature of Germany and other nations. It well represents the views of German medicine on this subject.

F. H. P.

A MANUAL OF VENEREAL DISEASES. By James R. Hayden, M.D., Chief of Clinic and Instructor in Genito-Urinary and Veneral Diseases, College of Physicians and Surgeons, New York; Professor of Genito-Urinary and Venereal Diseases in the Medical Department of the University of Vermont, etc. New (2d) edition, revised and enlarged. In one 12mo volume of 304 pages, with 54 engravings. Cloth, $1.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Prof. Hayden has made a thorough revision of his work in this new edition which has been called for within so short a time. The methods in this department of medical science have made such rapid progress of late as to make frequent revision of its literature obligatory in order to keep abreast the times. This clear and succinct exposition of the subject by one who is an authority, has been appreciated by the student and practitioner, and will no doubt continue to be in demand as a practical handbook.

DIE ERKRANKUNGEN DES DARMS UND DES PERITONEUMS von Prof. Dr. H. Nothnagel in Wien. Specielle Pathologie und Therapie, herausgegeben von Hofrath Prof. Dr. Hermann Nothnagel. Band XVII, Theile I, II, III, 814 pp. Twenty plates. 1895, 1896, 1898. Bound in paper. Alfred Hoelder, publisher, Vienna, Austria. I, Rothenthurmstrasse 15.

Professor Hermann Nothnagel, of the first Medical Clinic of Vienna, is known the world over as a man of science of the first rank and as a clinician of acute observing powers. Every American who has studied in that city by the Blue Danube will recall the tall, soldierly figure who stood at the bedside of the patient on whose case he was lecturing and remember how with his emphatic Prussian accent he impressed the salient features of the case on the hearer's mind. This volume of three parts is from his capable pen and it deals with the diseases of the intestines and the peritoneum.

The first chapters of the opening section take up the chemical processes and the bacteriological flora of the intestines and the movements of that tube. He begins the consideration of the diseases themselves by treating of constipation, diarrhoea, intestinal dyspepsia and tympanites. Then succeed pains in the bowels, hemorrhages from that tract, the condition of the urine in intestinal diseases—a point often never considered in such works—catarrhs of the bowels, phlegmonous inflammation of these organs, diphtheritic and croupous enteritis, atrophy of the intestines, muco-membranous enteritis, our old friend pseudo-membranous enteritis, and, finally, intestinal ulcers. Each chapter is given full consideration in all features, so as to form a complete whole.

The second portion or fascicle deals with more definite morbid processes, as intestinal stenosis, neoplasms both benign and malignant, the different varieties of intestinal obstruction in all their phases, paralysis and motor insufficiency of the intestine. The last two chapters take up the diagnosis of intestinal stenosis and obstruction and their treatment. This fascicle is one of the best works that I have read on this subject, and coming from the long and extensive experience of such a master of our art, it will be found a trusty guide in the management of such cases, which are liable to give one anxious thought.

The third fascicle he has just finished. It is a masterful work. Continuing his treatment of intesinal diseases, he presents perforation and rupture of the bowel, diverticles of the intestines, anomalous forms and positions of these organs, diseases of the blood vessels, nervous bowel affections, amyloid disease and inflammation of the rectum.

The affections of the peritoneum are very thoroughly considered, the acute and chronic inflammatory involvements of course occupying the chief portion of the work. Each subject is fully and completely treated, with an exhaustive presentation in all its variations and phases. The malignant growths of the peritoneum come last, but not least. One is impressed with the influence of his own experience in his elaboration of each subject. His original conclusions and deductions from his own observation strike one on almost every page, and his advice one feels as a guiding hand rather than as one left in a wide sea of divergent and conflicting opinions of current literature. An excellent work from a great mind. F. H. P.

HISTOLOGY, NORMAL AND MORBID. By Edward K. Dunham, M.D., Professor of General Pathology, Bacteriology, and Hygiene, in the University and Bellevue Hospital Medical College, New York. In one very handsome octavo volume of 448 pages, with 363 illustrations. Cloth, $3 25, net. Lea Bros. & Co., Publishers, Philadelphia and New York.

Dr. Dunham has departed from the usual plan of teaching histology, and to the very great advantage of the pupil, by showing the close relation between cellular activity and structure, which unifies the subjects usually kept distinct under the titles of normal and pathological histology. We cannot better present the author's idea, which he has worked out with logical clearness, than in his own language:

"The most important lesson to be derived from a study of the tissues in health and disease is a knowledge of the constant and potent *actinites* of the cells to which those tissues owe both their origin and usefulness. When the body develops under normal conditions, those cells build up the tissues, gradually modifying their formative activities, so as to occasion a diversity of structure in different parts of the body. During this development epoch, and after maturity is attained, the activities which are grouped as *functional*, and which it is the lot of the tissues to maintain, are also carried on by the cells. But in order that these manifold cellular activities shall be of the usual or normal character, the condition under which they are carried on must not depart greatly or for any considerable length of time from a certain usual or indefinite standard. If these conditions are materially altered, the cellular activities become modified, and the functions they perform suffer aberration, as a result of which structional changes in the cells and tissues may ensue." In the construction of this manual the author has steadfastly kept in view such a conception of the relation between cellular activity and structure. In this connection we refer to the experiments, along a similar line, which Prof. Elmer Gates is making at his laboratory at Cherry Chase, and the possibilities, in mental and physical development, which he is unfolding.

MANUAL OF DISEASES OF THE SKIN; with an Analysis of Twenty Thousand Cases and a Formulary. By L. Duncan Bulkley, A.M., M.D. Fourth edition, revised and enlarged. G. P. Putnam Sons. 1898.

The standing of Dr. Bulkley as a specialist in Dermatology corresponds in this country to that of Hebra and Kaposi in Europe, and anything from his ripe experience will at all times be most welcome to the profession. The present little book was originally prepared for students and physicians following the author's clinics at the New York Hospital, and partakes much of the style of class-room conversations upon the various diseases as they appear clinically. In order to present the relative frequency and importance of different affections in the briefest space possible, a chapter is devoted to an analysis of eight thousand skin cases. The matter of therapeutics has been dwelt on to a greater extent than might be expected in a small manual. A very valuable addition to the chapter on treatment is a formulary showing the author's idea of the combination of drugs and their application. While the volume is, to a great extent, personal, the author has freely availed himself of the ideas of prominent dermatologists which have stood the test of his own experience.

A PRACTICAL TREATISE ON THE SEXUAL DISORDERS OF MEN. By Bukk G. Carleton, M.D., Genito Urinary Surgeon to the Metropolitan Hospital; Consulting Genito-Urinary Surgeon to the Hahnemann Hospital, New York. Boericke, Runyon & Ernesty, 1898.

Dr. Carleton has placed the profession under a lasting obligation to him for his clear, thoroughly scientific and practical discussion of a class of disorders which are the base of an immense amount of nervous derangement and of domestic unhappiness. The great importance of an early and correct diagnosis of the sexual disorders of men is urged with great earnestness and force and the fact clearly demostrated that in the morbid condition of these organs you touch the very keynote of a host of ailments, the cause of which is very apt to be overlooked. Dr. Carleton's experience, gained not only in private practice but as the genito-urinary surgeon of one of the largest hospitals in the city, fits him in an eminent degree for the work he has given to the public, not the least of whose merits is that it is a record of his own experiences and thoughtful study.

INTERNATIONAL CLINICS. Vol. III. Eighth Series. 1898. J. B. Lippincott & Co.

This volume covers almost every department of our profession and is unusually rich in thoughtful clinical work. All of the articles are written either by professors of special subjects in medical colleges, or by specialists with large hospital connection and experience, and are the results of careful thought, the practical value of which is demonstrated in the results obtained and seen in the hospital ward or in the clinics.

THE PHYSICIANS' VISITING LIST. P. Blakiston & Co.

It is only necessary to announce the publication of a visiting list for 1899, which has for forty-eight years been most acceptable to the profession.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. By I. P. Crozier Griffith, M.D. W. B. Saunders. 1898.

An admirable work for mothers and nurses, covering the hygiene of pregnancy and the general care of the baby, physically and mentally. The chapter on baby's diseases is clearly written, and will be of great value in emergencies and slight ailments.

GOULD'S POCKET MEDICAL DICTIONARY. New edition, revised and rewritten with over 21,000 words.

HOSPITAL REPORTS.

SURGICAL CLINIC, HELD AT THE NEW YORK POST-GRADUATE HOSPITAL. OCT. 27, 1898.

BY ROBERT T. MORRIS, M.D.

CASE I. APPENDICITIS.

GENTLEMEN: I have a scratch on my finger which I shall show you how to protect by a very simple device and which can always be applied at any time. I have here a rubber bag; this I simply slip my finger into and then fasten by means of a rubber band applied about the free edge of the band high up.

This patient presents a very common history. He was struck in the abdomen. After the injury he felt a certain amount of discomfort in the right inguinal region, but which caused him but little disturbance for several weeks. There was no pain and no subsequent symptoms except the discomfort in that region. Ten days ago he had nausea, colicky pains and a marked increase in the local pain, which was reflected to the region of the navel. He had rigors and constipation and other symptoms which occur in cases in which the lumen of the appendix has been obstructed, where the mucus has been dammed back and undergone the process of decomposition. This is a case of injury to the appendix—traumatism—but the cases I have made careful notes of make me believe that the appendix was not directly injured, but that the blow has caused the appendix to become twisted upon itself. I have found several cases like this one following a blow upon the abdomen. This is one of the cases fairly common, in which the mesentary of the appendix has been put upon the stretch, and in the new adustment the lumen has become occluded, the mucus dammed back and this mucus has undergone fermentation. These changes are increased whenever any particular effort is made which brings into play the right psoas muscle; whenever this muscle contracts it tends to damage the appendix. If any one palpates a normal appendix he should place two fingers on the edge of the right psoas muscle; the patient should have the legs flexed. The appendix lies over the edge of the psoas muscle and so any firm contraction of this muscle damages it in various ways. Bacteria enter and cause a long train of symptoms common to appendicitis. This patient's abdomen is well filled with gas. In palpating I begin at the right edge of the rectus muscle and bring the fingers towards me, which gives me the landmarks I seek. Having found the colon it is easy to follow it along till I come to the caecum, when the appendix is readily found.

I shall commence the operation at McBurney's point; this corresponds to a point on the surface two inches from the spine, on a line drawn from the umbilicus to the anterior superior iliac spine. I shall make a very short incision, using scissors for this purpose. This is a remarkably thick skin and a thick layer of fat. I do not do much cutting in this operation. I am now down to the aponeurosis of the external oblique which is white in appearance. I now split this aponeurosis by stretching it with the scissors. The internal oblique and transversalis muscles are split in the same manner. After operating in this way these muscles fall together and so prevent any hernia from occurring. The subperitoneal fat is very thick. I now hook up the peritoneum and get control of it by passing a needle armed with cat-gut through it; this ligature is then given into the hands of my assistant and is of great benefit to me. I now proceed to stretch all the structures gone through; afterwards they will fall together and any attempts at vomiting will tend to close the wound the more completely and lessen the danger of hernia. I now have the colon under my finger, which you can all recognize by the longitudinal muscular fibers. When you work through so small an opening, you avoid exposure of much gut by going towards the bare part of the bowel; the fatty tabs should not be followed. The caecum is bare compared to the colon, which is studded with fatty tabs. Gentlemen, this is an exceedingly rare case of subperitoneal appendix, in which the appendix is beneath the peritoneum. Note that the ileum has a lighter color than the surrounding intestines. Here is the site of the ileo-caecal valve. I now shall split the peritoneum and I now have the base of the appendix. If one follows the longitudinal white bands you cannot mistake the position of the appendix. The tip of the appendix went behind the peritoneum and emerged again; this is what caused the obstruction; it was dammed here by passing under the peritoneum. I will now use a small cat-gut passing it around so as to include the small artery of the meso-appendix. This cat-gut should be carried below the fat; fat under the ligature prevents the splitting of the tissues beneath the ligature, which might otherwise follow in one or two days, giving rise to trouble.

In order to bury the stump of the appendix you aim a needle with a small strand of cat-gut and place in a puckering-string suture, starting about one-half an inch from the base of the appendix, carrying it all the way around beneath the peritoneum, but not into the mucous coat. You must, also, first scarify the peritoneum. I now shall cut off the appendix and, with a pair of forceps, depress the stump and then fasten the pucker-string suture tightly. The stump I have now buried into the lumen of the caecum, infolded toward its lumen. After washing off with a saline solution, I place aristol over the wound. Aristol makes a lymph coagulum which is not readily penetrated by bacteria.

The peritoneum is now carefully closed; if not closed completely a knuckle of bowel might make its way between the peritoneum and muscles and a hernia develop.

Symptoms of post-operative troubles are usually due to sepsis. There is no danger of fat-embolism in this case, because the lymphatics are not large. I now shall approximate the transversalis and internal oblique. Now I catch up the aponeurosis of the external oblique and pass one or two sutures through it; this will be sufficient to hold it. There is no danger of any hernia following. This deep fatty layer it is best not to suture; instead I suture the skin over it and rely upon atmospheric pressure to unite it; atmospheric pressure will hold it together. In fatty layers it is not necessary to use sutures. I use subticular suturing which avoid going through the outer skin layer. About the hairs grow the staphylococcus albus and the sutures which are passed through the whole thickness of the skin carry the staphylococci down upon the point of the needle; by using this method of suturing you will seldom have a stitch abscess. You remember that the staphylococcus albus is the chief factor in stitch abscesses. In sewing in this manner, you will have resulting practically no scar. It is impossible to approximate the fatty layer by suturing; atmospheric pressure is far superior.

These patients are kept in bed about ten days. Certain disturbances accompanied by fermentation are likely to follow. Digestion is inhibited for awhile and fermentation takes place, which causes gas to form in the bowels and this results in colic. It is important in these cases to have the bowels move one day after operation. Use one ounce of salts in an enema introduced high up into the colon. It is well to place in the rectum a little tube which will allow the gas to escape; these patients do not like to make any abdominal effort which would be necessary without this tube; this is a practical point and one of great consequence. In some cases in which it is difficult to get a movement of the bowel after operations, the peristalsis is inhibited and these cases may go on to a fatal termination from bowel obstruction. The proper thing to do is not to depend upon cathartics or salines by way of the mouth, but to depend upon the hydrostatic power of salines thrown high up into the bowel and allowing it to remain there as long as possible. To get into solution this requires a great deal of fluid, and this fluid is drawn from the blood by osmosis so rapidly that the patient will soon pass a very large amount of serum in one, two or three hours after passing up into the bowel one, two or three ounces of salt. In many cases this will be the turning point in the after history. One week ago I saw a patient

miles away from here with such a history. On day after operating I was called back to patient, being informed he had intestinal obstruction. I found him with pinched features, sunken eyes, fecal vomiting, and it was stated that the patient was sure to die, and all arrangements had been made for me to do an operation for obstruction of the bowels. I said to them that I did not think there was anything more the matter than a thickening about the bowel from infiltration, and then I introduced the high injection of a saline. In two hours afterward the patient had a large movement of serous fluid and the contents of the small bowel, and the patient then began to make a quick recovery.

In my early experience I have had just such cases, and upon operating I have been able to find nothing. Authorities all tell us that it is an extremely fatal operation after any bowel work. All monographs have referred to the fatal character of this complication. I have never been obliged to operate during a period of seven or eight years for post-operative obstruction. By this resource of injecting salt into the colon high up we can save many patients who would otherwise have died; this is of the utmost importance and is not sufficiently appreciated by many who have these cases in their practice to-day. The tube should be three or four feet in length and should be introduced as high up as you can comfortably. With the patient on his back, with hips elevated and shoulders low, it is no effort to pass the tube through the caecum. During the past eight years I have certainly sixteen cases that have recovered from that complication.

In suppurative cases I always remove the appendix if the patient can stand the operation; I also search for any adhesions that may cause obstructions later. Many a time have I opened the abscess and then found the patient was not strong enough for me to continue the work. I have found secondary abscesses which, would have killed the patient later on if left there. The thick masses of lymph I let alone. I do not believe in pulling out the bowels and wiping them; I think this is most desperate work. If there is much lymph do not attempt to wipe it off; you may, by so doing, paralyze the abdominal sympathetic. Instead of that place in a drainage at the back of the wound. Do not use multiple drainage. Most of these cases will get well if you let them alone. I have seen as much as one pound of lymph removed by the lymphatics. I have much feeling on this subject, the result of a large experience. Irrigate the abscess cavity with peroxide solution, put in a drainage wick, and close all except the drainage opening. Attempt to do as little work as possible. Three weeks ago I lost a patient who had a large abscess which opened into the ureter; this infected the kidney and the patient died of infectious nephritis.

In opening an abscess in the abdomen I use a 15 per cent. solution of peroxid of hydrogen; this is washed out in turn by a saline solution. Then a narrow wick drain is placed in. The peroxide solution in contact with normal epithelium will injure it. In attempting to heal a sinus often the use of this solution will keep the wound open for months. The leucocytes are attacked by the peroxid solution and so plastic lymph cannot be formed, and the connective tissue is destroyed as it is formed. One can keep a wound open indefinitely by using this peroxid. Thousands of cases of sinuses to-day in this country are prevented from healing from the use of this agent.

I make it a rule not to see much bowel. I handle it as little as possible. I go largely by my sense of touch. Do not wash out the general abdominal cavity; years ago this was done very much. My belief now is that, since the fluid contents of the abdomen are drained towards the pelvis, we can get it all out with a small wick drain. Few patients can stand flushing of the abdominal cavity. The hypoleucocytosis will take care of it all.

In preparing the patient for operation, we use first green soap; then scrub the skin with solution of bichloride of mercury, 1-2000; then a pad of gauze is placed over the skin and left there till time of operation.

To prepare the hands take one dram of chloride of lime, one dram of chlorinated soda in the palm of the hand and pour water upon them; free chlorine is set free, which will disinfect the hands. This is one of the best methods for preparing the hands; it is not injurious to the hands. In this institution it is not used because it tends to destroy towels so rapidly. In other places I use this mixture; two or three minutes use of this will completely sterilize the skin.

CASE II. CURETTAGE AND RESTORATION OF PERINEAL BODY.

This patient has trouble resulting from subinvolution of the uterus, with dangerous hemorrhages. There is a granular degeneration of the endometrium. The perineum is divided in such a way that the bowels roll down and makes it extremely difficult to urinate, especially to start the urine. I will now bring the uterus well down with the volsellum forceps, dilate and curette. My curette is surmounted with saline solution, which runs through the middle of the tube and throws backward any material that may be cut away. Please notice this granular *debris* that is coming away. In curetting the uterus do not use force enough to destroy the endometrium—just curette off the granular degenerative part. I use the sharp curette. If it grates I know I have used it enough. If I curette too much the patient may not menstruate freely and she may suffer from considerable congestion of head and other disturbances which may be worse than the hemorrhages. Having curetted her sufficiently I now take a strip of iodoform gauze, introduce it and make sure that outer end reaches to the perineum, otherwise the capillary drainage will not be good. In order to drain thoroughly, this wick drain must be placed on the outside of the vulva. I wish to call your attention to the large openings of the vulva-vaginal glands, which can be plainly seen by any of you from all parts of the room; it is unusual to find them so large.

With a pair of scissors I now make an incision preliminary to the repair of the perineum. I make it as even as possible on both sides commencing at the recto-vaginal septum just in front of the anus. The membrane I dissect up with the point of the scissors. The point of the scissors is now poked in deeply to the levator ani muscle. Here I notice an old infection of the vulvo-vaginal glands. I expose and prepare the levator ani muscles on each side, and I now bring their margins together in the middle line and sew them with a couple of stitches. There is no name to this operation—it is most anybody's operation. All one does is to bring the levator ani muscles together and sew them. The muscles can be seen riding on the ligature. The skin is now stitched in place. The perineum will shape itself after having done this and no artistic skill is required. Tate's operation is intended to be used when the rectum is torn; this operation is the same except that I hunt for and restore the levator ani muscles. This makes a solid perineal body. The chromacized cat-gut sutures used will last five weeks. For symmetry leave the vagina wide enough to accommodate three fingers.

To prepare my cat-gut I place it in a solution of formaline, 4 per cent., for 24 hours. I then wash the cat-gut under the tap for 12 hours to take the formaline out. I then boil for 15 minutes in water. Then it is placed in alcohol—common commercial—for a day or two to take out the water, and it is then placed in absolute alcohol till it is wanted for use. Wounds rarely suppurate when this preparation is used.

In a complete laceration repair the levator ani muscle and then the sphincter.

The patient should be catheterized for one week; it is not safe to allow her to urinate within a week. I use glass catheters and I use great care not to cause a cystitis. The objection to allowing her to pass her urine is that it is dangerous for the urine to pass over the sutures; it might lead to infection. Cotton should be placed between the thighs to keep the parts dry; if not kept dry the parts may become infected. If much pain follows, codein is useful; it is better than morphine, not having the bad after-effects of the latter. Give one grain of codein, repeat in an hour to quiet the restlessness, and then the spasm of the bowels usually cease. It is difficult to keep the patients entirely free from pain. The gas, pain and colic occurs the day after the operation. If the patients are expecting the pain they will laugh at it; but, if they do not expect it, they will cry out so loud as to bring out the fire department.

"Platinized" glass is made by coating ordinary glass with a thin solution of platinum and heating it, the result being that the metal unites with the glass and makes of it a sort of mirror. But the mirror has the strange property that, when it is built into a house like a window, the people inside can see all that is going on outside, while those outside see only a mirror; in other words, it is transparent from one point of view and reflecting from the other.

MEDICAL CLINIC, HELD BY DR. FRANCIS DELAFIELD, NOVEMBER 14, 1898, AT ROOSEVELT HOSPITAL, NEW YORK CITY.*

CASE I.—EMPYEMA.

Gentlemen: The first case I have to show you is a boy, aged 7 years, who entered the hospital October 25. Four years ago he had measles. He has also had whooping cough; otherwise he has been well, until he began to be sick September 30. He came into the hospital October 25, when he developed a sense of oppression of the chest, fever and prostration. There was no chill, convulsion, headache, or pain. Three hours later there was a dry, aggravating cough, vomiting and diarrhoea. These symptoms continued four or five days, when the diarrhoea and vomiting stopped. The cough was better but the fever continued. The pain was referred to the epigastrium and was increased by coughing. Two weeks from the onset the patient was better, but only for a short time. Since then he has had great prostration and much cough; his chief complaint is the latter.

This history is entirely indefinite, and no certain conclusions can be drawn from it. When he came into the hospital he was pale, but still fairly nourished; his tongue was coated and moist. The temperature was 102 degrees, pulse 128, respirations 36. The specific gravity of his urine was 1,020, and contained no albumin. Over the upper part of the right chest behind there was flatness on percussion; the breathing was rough and high pitched. Over the lower part there was diminished breathing. Over the right lung in front there was exaggerated voice and breathing. It was uncertain whether the case was one of pleurisy with effusion or empyema; either was possible. Placing a needle in the chest showed that the fluid was pus, so it was evident that the boy had empyema from September 30 to October 25, when he entered the hospital. He was put to bed, given whisky, and his chest was aspirated, 200 cubic centimeters of a thick yellow pus being drawn off. On the 26th of October he appeared better, on the 31st 100 more cubic centimeters of fluid was drawn off. On November 1 I came on duty and saw the patient for the first time. I saw no reason for deferring opening the chest, which was done on November 4, when three inches of the seventh rib was removed and drainage introduced. There was a considerable discharge of pus; the day after operation the discharge had fairly changed in character and was serous instead of purulent. After the operation the temperature went down until now it is nearly normal and the boy apparently well. I will now have the dressings changed so that you can see where the drainage is.

This is a good ordinary example of empyema. As a rule they do as well. The point in this case is this, the boy has not only had a certain amount of pus removed from his chest, but the purulent pleurisy has been controlled; it is now no longer a purulent pleurisy; he now has a pleurisy with some effusion of serum. The object of the operation was not alone to empty the chest of pus, but to cure the pleurisy. The little fellow is now in good shape.

CASE II.—INFLUENZA.

This next patient is a man 22 years of age. He is an Italian, and was admitted to the hospital on the 8th of November. Two weeks previous to this date he was suddenly taken sick with a chill, sharp pain in the right side which was increased upon coughing. The patient took to bed at once, remaining in bed until he came to the hospital. He continued to have pain in the right side. There was no expectoration of blood. He complained principaly of cough and the pain in the side. When he entered his temperature was 98.4, pulse 108, breathing 26. His tongue was thickly coated. His breathing was rapid and shallow. His abdomen was distended and tender. His face was apathetic and the man looked sick, although he only had a temperature of 98.4. Over the entire right lung behind there was a subcrepitant friction sound; this was the only physical sound obtained, although he was expectorating a muco-purulent fluid. There were no coarse rales. The next morning after admittance his temperature was 102 degrees, the next, 99 degrees, the next day 102 degrees in the afternoon, next morning 102 degrees, on the 11th of November it was 101 degrees, and to-day it is down between 99 and 100 degrees. So when he first came in, the temperature ranged from 99 to 102 degrees; it now ranges from 99 to 100 degrees. The cough continued and there was an abundant muco-purulent expectoration. The evidence is that he has bronchitis with a muco-purulent expectoration. He was sick for two weeks before his entrance to hospital, which makes three weeks that he has been sick altogether. The tongue has not entirely cleared off, and the expression of his voice has changed.

This is a straight history of one of the severer forms of epidemic influenza, and is the first one I have seen this fall. This case is a good one to give you an idea of how much of a disease an attack of epidemic influenza is. This man has fever which belongs to it, how high it was at first I do not know; at the end of three weeks the fever had only just gotten down between 99 and 100 degrees, which is one of the features which belong to this disease. He neither gave history of pain in back or limbs which are so often the marked features. Inflammations of the nose, throat or larynx have not been present. Inflammations of the bronchi have been present. There has been no asthma or coarse rales or dyspnoea. He has had also a dry pleurisy, which belongs to some cases of influenza. The effect of the poison upon the appearance of the patient is fairly well marked; when he came in at the beginning of the third week he looked like a man with typhoid fever, and these patients are often supposed to have typhoid fever. The patient is now fairly convalescent. The thing now to do is to get rid of his bronchitis. He has been given ipecac for his bronchitis, but we will now place him upon constant inhalations of creosote. He no longer needs to be in bed.

CASE III.—ANEURISM OF THE ARCH OF THE AORTA.

This woman is 48 years of age, and was admitted to the hospital on October 31. Her general health was good until history of this illness appeared. Five years ago after exposure to wet and cold, she had chilly feeling every night and perspired profusely. Later she felt a sharp stabbing pain to the left of the sternum, which was followed by cough. Ever since that time, whenever she caught cold, there has been a repetition of this sort of an attack with pain and chilliness. There was a dry cough and a slight mucous expectoration; these symptoms occurred every two or three weeks. Otherwise she has not been sick.

About one year ago her cold was a little worse and she stayed in bed; there was considerable expectoration. Eight months ago there was shortness of breathing upon exertion and some change in the voice. This dyspnoea on exertion, and loss of voice has been progressive. During the past month her cough has considerably increased, with increase of expectoration. There has been no pain on coughing nor any hemoptysis. She has a certain amount of pain at night, but her chief complaint is the cough.

Now, for purposes of diagnosis, I shall omit all history up to eight months ago, which was the date of her real illness. Now observe that during the eight months the main symptoms have been cough, change in the patient's voice, shortness of breath on exertion, and increase in the amount of expectoration. The change in the voice is not so much in its quality as in its strength. She has not the appearance of a sick woman. Her tongue is clean, her pulse is full and regular, yet she came in with temperature of 98.8 degrees, breathing 24, and her urine showed a specific gravity of 1020, with no albumin. She is now breathing quietly; she has no temperature, and there is nothing about her to indicate that she is a particularly sick woman.

The physical signs show good resonance over the front of chest; over the left lung in front there is a marked dullness on percussion, and also tenderness. In the axillary region there is flatness and loud gurgling rales; it is normal on the right side. Please note that there is on the left side, from the clavicle down, marked dullness on percussion, changing to flatness in the axilla and loud gurgling rales. Over the upper part of the left lung behind there was complete flatness on percussion. There is loud tubular breathing. There is no change in the heart's position, nor any murmur. These physical signs practically existed up to the present time. Note that the flatness is complete and extends well down the whole distance of the lung behind. Now to make a more explicit diagnosis, there has

*Stenographically reported for this journal.

been introduced a needle in the left side of the chest and no fluid has been found.

Now, gentleman, here is a woman with no fever, pretty well nourished, apparently feeling well with a history of eight months' dyspnoea on exertion, cough, increase in expectoration and change in character of the voice. The physical signs, to repeat, show the right lung normal, but the whole of the left lung behind, flatness on percussion, with loud tubular breathing. In the axillary region there is marked flatness and loud gurgling rales. Now what can account for all this? What is the condition of the left side of the chest?

One should think of aneurism. But this woman gives none of the ordinary signs of aneurism; there is nothing wrong with the heart at all. If the large bronchi of the lung are obstructed you can get, over the front of the lung, flatness on percussion; this is true. This may occur from pressure by an aneurism or any new growth, or in the curious cases of rapid bleeding into the bronchi, so that these bronchi are completely blocked up by the large clots formed. In this way we can account for the flatness on percussion. In the same way the pressure on the bronchi is capable of giving tubular breathing and rales, without any change in the lung itself outside of the pressure. This woman has an aneurism, given off at the origin of the aorta, which is pressing on the large bronchi, so producing obstruction, which readily accounts for the dyspnoea and physical signs. Since she has been in the hospital she has been kept quiet and given large doses of iodide of potassium; under his treatment the dyspnoea has become less and the woman feels better in every way. To make the diagnosis more complete there is the additional sign of pulsation which can be felt at times only. There is no question about our diagnosis; it is an aneurism of the arch of the aorta at the base of the lung.

I think if any one would simply listen to her chest without looking at her, would say that the upper lobe of the left lung was riddled with cavities, that she had had an old tubercular inflammation, with cavity following, etc. Yet the moment one looks at this woman you can see that this would be impossible, to have her lung in that condition and appear as she now appears.

CASE IV.—ACUTE RHEUMATISM.

This man is 47 years of age. He entered the hospital on the 28th of October. Seven years ago he had a moderate attack of rheumatism in the right knee, elbow and hand. Since he has been well, until the 24th of October, when he began to have pain in the right hand with a little swelling. On the 26th of October the elbow and shoulder were swollen and tense. On the 28th he had a severe sharp pain with swelling in the knee, and all the joints became swollen and painful. This was the history of an invasion of an acute attack of articular rheumatism, beginning on the 24th of October with the first symptoms of synovitis. This occurred four days before he was admitted to the hospital. When he came in his nutrition was good. He was a large florid man. His tongue was moist and coated. His pulse was 120, full and regular. The right hand, knee, elbow and shoulder gave the ordinary appearances of rheumatic synovitis, the parts being swollen, painful and red. The temperature was 99 degrees, pulse 120 and respirations 26. There were no constitutional disturbances. The specific gravity of the urine was 1022, and contained a few granular casts. The heart was all right. On the 28th of November he was placed on salicylate of soda, grains 20, in solution, every three hours. That is the ordinary dose we give for cases of acute rheumatism. He was placed in bed and given a milk diet. The local dressing consisted of oil of wintergreen placed about the inflamed joints. On the 29th the left elbow became red and tender; the other joints were about the same. On the 31st the left foot, knee and hand were all badly inflamed. On November 1 the synovitis was not any better. The quantity of salicylates were increased, which caused some ringing in the ears, but did not make the rheumatism any better. On November 1 he began to show some constitutional disturbances and was a little delirious. The temperature chart shows fever had gone up The highest point reached was 104 degrees; the temperature kept on going up while I was using the salicylates; the 104 degree point was reached on November 1. So here was a man who was treated for four days on salicylate of soda, and yet not getting any better, but getting worse. When this occurs it means that the salicylate is not the drug for that particular case of rheumatism, and that under its use the patient will not get well. One must then stop it and try some other plan of treatment. In this case we had the poison of the salicylates and the poison of the rheumatism. It is a rule that if we get a poisonous effect from the drug administered it does not have any specific effect on the poison of the disease. So having tried it, stop it and place the patient upon the old alkaline treatment, as I did in this case, giving him one dram of bicarbonate of potassium in lemon-juice four times a day. The next day sweating occurred and the patient felt better. I then increased the bicarbonate of potassium to two drams in lemon-juice four times a day. By the 6th of November the urine as rendered alkaline and has kept so ever since. This was begun on the 1st of November; on the 2d he was better and the temperature was found to be going down; on the 3d, 4th, 5th, 6th, and 7th it kept falling, when it got down to 99 degrees, and has been to 98 degrees. The synovitis has disappeared and the man is now fairly convalescent from his rheumatism. There has been no heart complications. This is a straightforward example of the fact that there are certain cases where it is best to administer the old alkaline treatment; this man belongs to just that class of patients—strong, red, florid men who do better under this plan of treatment. This man has really done a little better than they usually do; he has had a temperature of 104 degrees, all his joints inflamed and was a very sick man, and it only took four days of the alkaline treatment of two drams of bicarbonate of potassium, effervescing in lemon juice, to practically cure him.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

BIOLOGICAL SOCIETY.

The Thyroid Body in Infectious Diseases.—MM. Roger and Garnier.—We have examined the histological modifications that the thyroid gland may present in the course of infectious diseases. Our researches have extended to the investigation of a certain number of glands of patients who have died in our service, and of animals infected by microbes or different toxines. To realize, in the animal, the radical alterations of the thyroid body we had recourse to the following operative technique: A ligature was applied to the carotid artery, above the origin of the thyroid artery, and in the subjacent cul-de-sac thus formed different microbes, easily introduced into the thyroid parenchyma, were injected. The typhic bacillus served as a base for our researches, and under these conditions the survival of the animal was variable and proportionate to the quantity and virulence of the culture. The lesions produced were, in the case of rapid death after the injection, alterations particularly vascular, at first endartertis, small sanguineous clots, enormous congestion of the capillaries, sometimes large hemorrhagic deposits When the animal survived for some weeks the thyroid gland was seen to be traversed by numerous sclerous bands, the parenchyma divided into secondary lobes, the sclerosis, the ordinary mono-vesicular, with frequent vacular degeneration. These lesions from direct infection of the gland resemble those observed in nearly all infections, both in man and animal, and it is right to suppose that they account for certain symptoms, and explain some of the manifestations which survive the disease.

Resection of the Sympathetics in Experimental Epilepsy.—M. Laborde.—At the present time much interest is manifested as to the results obtained by section of the sympathetic in the treatment of epilepsy in man. Investigations are being made upon a large scale to determine the effects of the same treatment upon animals by what is called experimental epilepsy. Sometimes we have created in the guinea pig epileptogenic zones, either by section of the sympathetic or by medullary hemisection, adopting the method of Brown-Sequard, or section of both sympathetics. Sometimes, on the contrary, the section was primitive and the creation of the epileptogenic zones secondary. In the first case, bilateral sympathectomy has no influence in arresting the epileptoid attacks, but in the second they diminished in intensity and the epileptogenic zones were variable in their appearance.

Muscular Tonicity in Tabes and General Paralysis.—MM. Fere and Lance.—Muscular hypotonicity is a symptom often met with in tabes. Is it as often seen in progressive general paralysis? Such has been the purport of our investigations, and our conclusions are that muscular atony is very rare in general paralysis, and shows itself independently of motor inco-ordination. This is a new fact among those that differentiate tabes from general paralysis; the lesions of the spinal medulla are, in effect, variable and without any well marked systematization.

Experimental Infectious Panophthalmia.—M. Phisalix.—Inflammations of the orbital cavity and the ocular globe in the course of or following infectious diseases (typhoid fever, erysipelas, influenza, etc.) have been proved by a great many observers. These metastatic ophthalmiae may be attributed either to capillary embolism or to the action of a toxine circulating in the blood. In the first case a characteristic microbe of infection is found in the pus of the abscess. It would seem easy then to reproduce experimentally these ophthalmiae by inoculating cultures of this microbe. But many experimenters (Orxenfeld, Gillet and Grandmont) have obtained by injection of a microbic culture only acute inflammations of the eye, but not veritable panophthalmiae. Two years ago an Italian author—Guasparrini—observed in a man, convalescent from typhoid fever, a double panophthalmia with suppuration, the pus of which in the anterior chamber gave a culture of Eberth's bacillus. But what is more interesting still is, that by inoculating animals with a culture of virulent typhus in sufficient quantity, veritable panophthalmiae were produced.

I present to the society an analogous experiment, that of a dog that has undergone extirpation of the globe of the left eye, in which there was a purulent collection produced under the circumstances named. From the 11th of June to the 21st of July there were injected under the skin at different times one to two cubic centim. of a culture of the microbe of septicemia of guinea pigs as previously described. Following the inoculations there was vomiting and depression, which soon disappeared and there only remained a slight local irritation. On July 21, 16 days after the first subcutaneous injection, there was injected into the saphena vein 1 cc., ¼ of a virulent culture of the same microbe. Of the ocular changes, the inflammation of the eye continued to increase, with prominent exophthalmia, cornea lost its brilliancy became gray, and the iris invaded in turn, with pus in the anterior chamber, abundant enough to constitute hypopyon. The conjunctival culs-de-sac distended and formed hard cushions, preventing the movements of the lids; the cornea presents deep ulcer of oval form on its upper surface. The other eye began to be affected; conjunctiva highly inflamed, cornea dry, pupil dilated; ablation of diseased eye effected. As soon as enucleation of the left eye was performed the accident of the right improved, and cure promptly followed, which facts appeared to sustain the argument of the infectious theory of sympathetic ophthalmia, and a new example of the real efficacy of enucleation.

SURGICAL SOCIETY.

Surgical Treatment of Facial Neuralgia.—M. A. Guinard.—For five years I have seen many patients affected with facial neuralgia, or "tic douloureux," of the face, absolutely rebellious to all medical treatment, have been able to follow up these sufferers, and here is the result. I have exsected Meckel's ganglion eight times; successfully in five; failed in three; one successful resection of the ganglion of Gasser. Have resected the gingival border of the inferior maxillary and a point of departure of neuralgia—three times. This operation, warmly recommended by Jarre, has yielded two checks and one success. As respects the operative technique, for resection of the alveolar border of the jaw, I would advise the use of the gouge-pincer, which will extirpate the entire osseous tissue between the muco-periosteal lips that have previously been detached from the law. There then remains an osseous excavation, which can be scooped out by Legonest's gouge, or a strong curved curette; reapply the lips upon the excavation. For resection of the superior maxillary nerve, the operation of Lossen-Braun, the time for which is so well regulated by Segond, is the best method to adopt. The technique suggested by Poirier, is to be preferred for intracranial resection of the ganglia of Gasser. For this operation the practice of Krause, which consists of atropinizing the eye of the side to be operated upon for 48 hours, seems to be highly recommended. For myself, I have had no serious post-operative trouble, and extirpation has been complete; moreover, it has surprised me to find that the ablation of the ganglion of Gasser is much easier upon the living subject than upon the cadaver, as respects the indications for operating. The removal of the ganglion is the most effective procedure, but it is of such gravity that it should be adopted as the last and only resort. Finally, it may be said first, that it should not be concluded because of the radiation of the pains from the whole zone innervated by the tritacial nerve, that extracranial operations upon a single one of the branches will be ineffective. Second, that because the pains at the beginning of the affection and of the attacks manifest themselves in the territory supplied by one of the branches of the trifacial, that section of this branch alone will produce cure. Third, it is then logical to begin the surgical treatment by operations that are sometimes ineffective, but always mild, and not propose from the first the extirpation of the ganglion of Gasser, an operation always grave, whatever may be said of it. Fourth, the intra-cranial extirpation of the ganglion is an exceptional operation, but entirely practicable, and the execution of it does not present the difficulties that would, *a priori*, be supposed.

Suppurative Arthritis of the Hip Following Purulent Otitis.—M. Picque.—At the age of eight years the patient had had an attack of measles followed by a suppuration of the ear. Twelve years later there was a second attack of otitis, and following it symptoms of suppuration of the hip, for which arthrotomy was practiced. The patient was cured, there remaining only a slight difficulty in the movements of the articulation.

A Hairpin in the Bladder; Extraction by the Hypogastric Operation.—This case communicated by M. Rochard was that of a young girl of 14 years, whose bladder contained a hairpin for three days. Three unsuccessful efforts under chloroform for extraction having been made by the natural passages, recourse was had to the hypogastric operation to remove the foreign body, with good effects subsequently. Within a year there has been occasion three times to perform the same operation for different foreign bodies—pins, penholders, etc.—and it should be performed when the foreign body is too large or too long to pass easily through the urethral canal.

ACADEMY OF MEDICINE.

Tuberculosis and Variola.—M. Lop after 64 personal observations, 54 belonging to Prof. Revillod of Geneva, and 22 taken from the experience of Chauvin, confirms the predisposition that connects variola with tuberculosis, the latter being more grave as the time is shorter between the two diseases.

Prophylaxis of Variola.—Coste has investigated each of the modes of variolar infection, and makes the following propositions as an appropriate measure of defense. First, To isolate every contaminated individual, and every one liable to be so, during the whole period of incubation, say from 9 to 10 days. Second, To disinfect everything that can be infected, vessel, merchandise, clothes, baggage, etc. Third, To vaccinate and revaccinate every individual susceptible of contamination.

Medical Treatment of Epilepsy.—M. Maurice de Fleury communicated to the Academy a memoir upon the above treatment. M. Motet, who was charged to make a report upon his work, recalled the fact that at the congress of Angers the small success of the surgical treatment of epilepsy was signalized so much by MM. Lannois and Jaboulay, that it was a good reason for the medical treatment of this affection, which of late has been too much abandoned. It has been established by clinicians that the premonotory symptoms of attacks were caused by abnormal fermentations in the digestive tube, and that by giving great care to the choice of a regimen, and the healthy condition of the tube, a truly palliative treatment of epilepsy was secured. M. Motet particularly insisted upon the originality of the researches of M. Fleury, who proved that injections of artificial serum greatly increased the sedative effects of the bromide of potassium. With two or three daily injections, two or three grains of the bromide could be given to epileptics instead of the massive doses to which they are subjected. Under these conditions the attacks are not more frequent and the intelligence is more quickly restored, and the general condition improved. This favorable action of the serum is due to the increase of arterial tension and the reinforcement of cardiac tonicity.

Treatment of Aneurisms by Gelatine.—M. Lanceraux—I present to the Academy two patients cured of aneurism of the arch of the aorta by the treatment by subcutaneous injections of a solution of gelatine. With these two patients I am in possession of five observations sufficiently demonstrative to enable me to affirm the efficacy of this treatment and again to call attention to it. It is based upon the fact, experimentally proved by M. Dastre, that intravenous injection of gelatine greatly increases the coagulability of the blood. In consideration of the possible dangers of a coagulating intravenous injection in man, it has occurred to me to substitute for it subcutaneous injections. As the result of experiments upon animals, and my first trials upon man, I have adopted the following method. A solution is made of two grams of gelatine in 100 grams of salt water, physiological standard. Inject 250 cubic centimeters of this solution under the skin of the buttocks, and in the subcutaneous cellular tissue. Renew injection at variable intervals, from 2 to 10 or 15 days, and 10, 15 or 20 injections generally suffice to obtain a complete cure. The same treatment has been tried in two cases of aortitis with dilatation, but without amelioration, the patients dying from aortitis, and I have been able to prove that coagulation did not form at the point of dilatation.—M. Huchard. I have employed the method of M. Rancereaux in several cases, particularly in a large aneurism very prominent exteriorly; cure complete after 20 injections. The only inconvenience of the injections is, that they are very painful. The idea occurred to me to employ the same treatment in a phthisical patient to frequent hemorrhages due, as is well known, to Rosmussen's small aneurisms. They were arrested, but the patient succumbed to the progress of pulmonary tuberculosis. Is there no danger of accidents occurring from the migration of a clot formed in the aneurismal pocket, if the injections, at too high a dose, are multiplied? M. Lancereaux.—A case of sudden death from a massive coagulation of the aortic blood is reported to have occurred in the Paris hospital. This shows the necessity of acting with prudence and caution, I have observed no such accident in my personal experience.

The Precocious Diagnosis of Pulmonary Tuberculosis.—M. Fernet.—To the well known signs that are authoritatively given as indicating the beginning of pulmonary tuberculosis, certain new observations may be added. I would insist in the first place, upon the importance of the increase of tonality of the diseased side upon percussion, and that this sign is especially observed when percussion is made on the most external part of the subclavicular or infraspinous region. M. Grancher considers the rough inspiration, persistent and localized at the apex, as the best premonitory sign of tuberculosis at the period of germination at that point. Connected with this sign are those furnished by plessimetry, which sometimes exceed it in clearness and distinctness. Plessimetric auscultation of the diseased apex produces a dry and rough round in place of the usual soft and prolonged sound. Nor should the search for the dry pleurisy localized at the apex be neglected, and especially the tracheo-bronchial adenopathy which is much more frequent than is supposed, and is the usual concomitant of pulmonary tuberculosis, and, as recommended by M. Grancher, the existence of the complication of the base of the lung of the diseased side should also be inquired into. I have ascribed this engorgement to alterations of the pneumogastric nerve because of the fact of the existence of tracheo-bronchial adenopathy on the diseased side. I have renounced this explanation, but I believe, nevertheless, that there is a relation between the engorgement and adenopathy. The engorgement is due to some obstruction of the lymphatic circulation, and if it exists only at the base of the lung it is because of the effect of weight. The three phenomena, then, induration of the apex, its engorgement, and tracheo-bronchial adenopathy, form a symptomatic triad that is characteristic of the beginning of pulmonary tuberculosis.

Pathogenesis and Treatment of Exophthalmic Goiter of Basedow Disease.—M. Vizouroux.—The pathogenesis of exophthalmic goiter consists, not in knowing which of the elements of syndroma precedes the others, but rather in what conditions, and by what mechanism the primordial alteration of the glandular or nervous element is produced. The principal factor of the Basedonian syndroma is the dilatation of the arteries, and consequently the hypersecretion of the thyroid gland. This vaso-dilatation is the result of an auto-intoxication of intestinal origin supervening under the influence of arthritism or some infectious disease. The relations of exophthalmic goiter to affections of the liver and arthritism are well known. The genesis of myxedema is analogous and only differs in the mode of action exercised upon the arteries. Consequently the treatment should be, first, general, with a hygiene regulated by the alternative variations of the nutrition as shown by analysis of the urine. Second, symptomatic. This consists in carotid faradization of the arteries of the neck and gland; has been practiced successfully at La Salpetriere for 20 years, and declared to be incomparable by Charcot; has also been the object of numerous publications in France and other countries. Surgical interference is dangerous, and always will be because of the special vulnerability of Basedow's disease, and should never be resorted to except as a last resort.

Tumors of the Large Intestine amd Intestinal Resections.—M. Boeckel.—Diagnosis of intestinal tumors is one of the most difficult, and, when recognized, operation is very often judged to be impracticable, and the surgeon must be satisfied with an artificial anus. I have resected the intestine three times in women aged respectively 40, 43 and 47 years. The first had a tubercular tumor of the caecum, the others a carcinoma of the ascending and descending colon. The two intestinal tubes were divided, sutured, abdomen closed and a cure obtained; in the first case, in 20 days. In the other two the caecum and appendix were removed, with a portion of the ascending colon and ileum, and a communication established between large and small intestines by lateral implantation of the first with the second (ileo-colostomy by implantation). Of these two patients the first was cured in 10 days, and so remains. The second died on the sixth day because of too long delay in operating.

Actinomycosis of Umbilicus by Direct Innoculation.—M. Reboul.—The case of a young man of 21 years, who working, stripped to the waist, as a reaper, developed a tumor over the umbilicus, formed of red and hard pustules. When removed, sections of the tumor showed numerous yellow grains of actinomycosis. The fleshy pustules contained small miliary abscesses enclosing little husks of wheat surrounded by grains of actinomycosis.

ACADEMY OF SCIENCE.

Modification of Organs in Course of Seventy-two Hours on a Bicycle.—MM. Regnault and Bianchi.—Experiments were made on the above occasion in the "Parc des Princes." The phonendoscope obtained a complete and rapid reproduction of the organs. The organs of first, Miller; second, Frederick, and third, Faure, were examined and designed before, after and several days after the course, and from the comparison of the designs the following conclusions were formed: The organs of the racers had greatly diminished, especially the abdominal organs, spleen, liver and stomach, and the subcutaneous fat had equally decreased. These changes are due to insufficient alimentation during the course, to considerable loss of strength from the heat, to want of sleep and to the excitement of the racers. The thoracic organs, heart and lungs, were not diminished, owing to the afflux of blood produced by the labor. The continual movements of the legs and pelvis, added to the forward attitude, lifted up all the abdominal organs, and these elevated the thoracic organs. The liver being more dense, elevated the right lung the pyloric extremity of the stomach was elevated; it took the form of a wallet, which permitted it to retain the food for a long time. The displacements were manifest, and hence the therapeutic action of the bicycle in ptoses, pleurisy and exaggerated verticality of the stomach. The heart and organs of Miller, Frederick and Faure were very resistant, which enabled them to complete the race. Other contestants, whose hearts were less energetic, gave up early. It would be advisable for racers to consult a physician to know if they are able to compete in such a course.

Treatment of Tuberculosis by Medicated Serums.—M. Berlioz, of Grenoble, acts upon the principle proclaimed by Grancher, that the decay of the organism and the bacillus are the two necessary conditions of tuberculosis, and that the treatment should have for its object the building up of the organism. With this view he utilizes the exciting properties of nutrition of the normal serum of beef, with which he incorporates a remedy whose ant tuberculous action is known, the phosphate of guiacol. In the second serum, he still increases these stimulating properties by adding the extracts of different organs—the testicles, liver,

spleen, brain, lungs, thus combining serotherapy with opotherapy. The employment of these serums, administered by injection in doses of 30 grams daily produces the following principal results: First, an increase in the weight of the patients; second, an increase in the amount of urea, which is doubled or even quadrupled, and following the improvement of the general condition, the cough, expectoration and night sweats rapidly decrease, with amelioration of the local lesions. Treatment should be continued for many weeks or even months.

Creosoform.—M. Brissonnet, of Tours, has obtained new combinations of creosote with but slight odor and taste, and well tolerated. The phosphate of creosote is colorless liquid; the tannophosphate of creosote, amber liquid; determine increase of urea and urinary acidity. Reosoform is a greenish powder resulting from the combination of formic aldehyde with creosote.

THERAPEUTICS.

Glycerophosphate of Lime — Alkaline Glycerophosphates.—The therapeutic idea formulated three years ago by Albert Robin is firmly founded, and the phosphates of our organism exist in the form of glycerophosphates. But if the principal role of the action of the glycerophosphates belongs to the phosphorus which, in a state of glycerophosphoric acid, is found animalized and assimilable, it is undeniable that the bases of lime, soda, potash, iron and magnesia cannot be used indifferently, and it would be very interesting to make a choice among them, according to the cases we have to treat. In place of prescribing exclusively the glycerophosphate of lime, the skillful physician will only employ it when he has to treat a separation of osseous tissue, or a tissue in process of formation. In a great number of other cases the base of lime is not only useless, but may have, especially in the adult and the old, serious inconveniences as an element of vascular calcification, and of intestinal troubles, constipation, etc. It is rational to treat nervous affections, neurasthenia, general paralysis, diabetes and albuminuria with the glycerophosphates of soda, potass. and magnesia. Soda is, in effect, the dominating mineral of the humors, and forms the medium in which all the chemical reactions are formed. Potass. is the chief mineral of the red globule, of hematine of the white substance of the nervous tissue, of the liquid which bathes the spermatozoid. Magnesia bears the same relations with the gray substance of the nervous centers. The glycerophosphate of lime should be employed for diseases of the bones, that of iron for chlorosis and anemia, and in all nervous affections. Particularly in adults and the old the preference should be given to the glycerophosphates of soda, potass and manesgia.

BIOLOGICAL SOCIETY.

Some Conditions that Modify Action of the Liver upon Microbes.—M. Roger has shown that the liver was capable of arresting and destroying different bacteria. A dose of the culture of charbon, 64 times greater than that which kills by injection into the peripheric veins, or a dose of staphylococic culture, eight times stronger than that which produces death in the same conditions, gives no trouble when the inoculation is made in a branch of the portal vein. It is interesting to inquire what becomes of this action of the liver under different experimental conditions, and so M. Roger was induced to study the influence of fasting upon microbic associations, and of certain substances, viz.: glucose and ether. The new researches were made upon 97 rabbits; in four the culture of charbon was employed, in the others the staphylococcus aureus. Under the influence of fasting the protective action of the liver diminishes but very slowly. The effects of microbic associations are due, as is known, to the action of soluble matter. Thus it is that sterilized cultures of the "bacillus fuligiosus" favor, in a very marked degree, the pathogenic action of the staphylococcus, and it was observed that their injection by a branch of the portal vein diminished the protective action of the liver, and indeed, if the dose was sufficient, suppressed it completely. The influence of glucose was studied in two series of experiments. Sometimes solutions of this substance were injected by the meseraic vein, and sometimes by the gastric. Doses of from 3 to 5 grams, introduced by the portal vein, diminished or suppressed the action of the liver upon the staphylococcus. Result the same as when sugar was ingested, but upon condition of the employment of a very large quantity, 15 to 20 grams. Smaller doses, on the contrary, had the effect of stimulating the hepatic gland. Thus, an animal that had received by the portal vein a cubic centimeter of a very virulent culture, and two days afterwards ingested five grams of glucose, survived seven days, while another succumbed in 18 hours. The effects of ether totally vary according to the dose. Five or six drops, introduced by an intestinal vein, abolished the action of the liver, death ensuing in 12 to 44 hours, according to the virulence of the staphylococcus used. It was proved that if ingestion was employed, ether above 1 cc. 5 diminished the action of the liver; below one cubic centim. it increased it. The injection of ether is an excellent method of increasing hepatic action upon microbes, but on condition of employing small quantities. In large doses ether destroys the protective influence of the hepatic gland.

Different Traumatic Abdominal Hemorrhages.—Contusion of the Abdomen and Intestinal Perforations.—M. Chauvel.—Hemorrhages due to wounds of the renal and primitive iliac veins have no special interest. In a case of contusion of the abdomen by the kick of a horse, the patient presented no sign of intestinal perforation for 12 hours. Laparotomy was performed, and two intestinal perforations and one contusion were found in the same coil of intestine. The perforations were sutured, and in spite of peritonitis already existing, the patient recovered. In another case, reported by M. Dubujadoux, a young woman was shot with a revolver in the abdomen. There was perforation of the stomach and contusion of the liver with hemorrhage; stomach sutured, woman recovered.

J. A. C.

CORRESPONDENCE.

ACETANILID AS AN ANTISEPTIC DRESSING IN INFECTED WOUNDS.

It is a surprising fact that the use of acetanilid in surgical dressings is not more universal among the rank and file of the medical profession. While the introducers of this drug have been enthusiastic in its praise, its use has not spread in the way it deserves. This is the more surprising because of the attention given by the medical profession to the interesting subject of antisepsis and asepsis for the past 15 years. A search of medical literature shows also a paucity of data on this subject; a half dozen articles scattered through various journals in the past five years seems to be the extent of exertion in this direction. The books on therapeutics, too, have but scant reference to this subject; several, indeed, fresh from the press, which I have examined, fail to mention this application of acetanilid, while the works that do give notice of its value do not emphasize its worth as they should. The first use of acetanilid in antiseptic surgery in a definite practical way seems to have been made by Dr. Hanell, who as a surgeon to the Seattle Coal and Iron Co., had many dirty wounds to dress. Thinking of the possibility of the antiseptic value of the coal tar products, he used acetanilid as a dressing in these wounds, if infected with dirt, coal, dust, grease and bits of stones. He found it of such value that the wounds healed promptly and nicely, with scarcely the production of pus, tenderness or delay. He reported in the *Medical News*, October, 1893, his conclusions. These results were so marked that they attracted the attention of Eastern observers, with the result that the antiseptic value of acetanilid was soon established.

Prof. Frothingham, at Yale Medical School, experimented in this interesting question, and by a series of experiments determined that acetanilid in the laboratory was as efficient as in the dispensary. Prof. Frothingham took up the investigation of whether this drug was an antiseptic or a germicide. He took as his standard the definition that "an antiseptic is a preparation that restrains the growth of micro-organisms which produce septic decay, without destroying their vitality." "A germicide, according to his definitions, "went further, and killed non-pathogenic organisms as well as disease germs." Prof. Frothingham found that as early as 1887 Sepine, in the *Revue de Medecine*, had done some work in this line, but it seemed to have been overlooked by the profession. In regard to the antiseptic action of acetanilid, he found that in tubes containing melted nutrient gelatin, in which acetanilid had been boiled and cooled and inoculated with cult-

ures of pus producing organisms, there was no growth on the sixth day, while in control tubes there was considerable growth. Even on the fortieth day, in the tubes containing acetanilid, there was scarcely any growth. What was a curious result was the fact that a 1 per cent. solution seemed to have greater antiseptic action than a 5 per cent. or a 10 per cent.

To test acetanilid as a germicide, Prof. Forthingham added to 5 cc.m. of a saturated solution of acetanilid a loopful of a gelatine culture of staphylococcus pyogenes aureus, which was well shaken and then spread on an agar-tube for five days. He found that the micro-organisms were not destroyed by their contact with the acetanilid. From these data, Prof. Frothingham believed acetanilid to be a good antiseptic, but as having no marked action as a germicide.

This article, published in 1895, was followed by an increase in the use of acetanilid as a surgical dressing; Allen reported his experience in 378 cases, as a local application in all surgical conditions. His report was most encouraging. He found that as an antiseptic, as a hemostatic, as a stimulant, as a desiccant and as analgesic it was most useful. He suggested its use as an ointment, 20 grains to the ounce of lanolin or petrolatum, from which dates our unguentum acetanilid. Dr. Woods used the drug in 20 cases of lacerated wounds and reported it of great value. He found that in the form of suppositories after the removal of internal hemorrhoids, it was a surgical advance. Dr. Bodamer found that put as a powder on mucous patches and wounds of mucous membranes, it acted most beneficently.

Dr. Morton, of the Philadelphia Polyclinic Hospital, reported in December, 1895, the results of using acetanilid in 1,000 cases consecutively. He found it of the greatest value in all cases; on extensive granulations and chronic ulcers its effect was most happy, producing at first a burning sensation, followed by an anesthetic action. He found that on healthy wounds a scab of acetanilid formed above and the wound healed quickly underneath; the mere physical presence of the drug in no way retarding the action of a healthy wound. In only two cases did he find that acetanilid had a toxic action; once in an anemic infant, 14 months old, in whom the wound, after excision of the hip, was packed with a 10 per cent. gauze; the other case was that of an old man who went into a state of collapse following the use of acetanilid for a scald on the arms. Both cases recovered on the removal of the dressing. This occasional toxic action of acetanilid should be remembered where wounds are extensive or the patient's condition depressed. Prof. Frothingham in his article stated that the drug had no toxic possibilities at all; even with these two cases the toxicity amounted to only one-fifth of 1 per cent. Acetanilid acts, it is well known, in the system to destroy the red blood corpuscle; hence its entrance into the system through a wound might, in prolonged applications, produce an anemic, but this is theoretical as yet. Practically no such effects have been noticed.

A personal use of the drug will soon demonstrate its value. In dispensary work it is impossible to overlook its good effects dusted into infected wounds as a powder, injected into carbuncles, abscesses, in a watery solution of one to two hundred parts of water, and in suppurating joints or fistulas it is most happy in its results; on tuberculous processes it acts most beneficially, and on chancroids some observers regard its action as surprising. Painted on suture lines in a saturated alcoholic solution it prevents the formation of stitch abscesses.

It dissolves in five volumes of alcohol and 200 of water. It can be diluted as a powder by adding boric acid, which does not seem to interfere with its antiseptic action, although used simply as a powder and dusted on in the majority of minor surgical cases is sufficient. It can be made into a surgical packing, in place of iodoform gauze, where the latter is indicated. It is far superior to iodoform or aristol, for the reason that it is less expensive and at least as efficient. Iodoform costs $4 a pound, approximately, while acetanilid costs 40 cents. Besides it has no odor, which alone would render it preferable to iodoform.

Until something better comes along, acetanilid is the ideal substance for use in infected wounds. J. H. A.

In giving chloroform beware of the patients who fight and struggle. They are the ones that furnish most of the mortality.

To the Editors of THE MEDICAL TIMES.

Having given considerable time to the study of climatic effects upon certain physical conditions, and traveled quite extensively with a view to a better understanding of the influence of not only latitude, but altitude, upon phthisical conditions, our last observations were made during the months of October and November of last year, extending through the Southern States, New Mexico and the Republic of Mexico. We have long contended that in America climatic conditions could be found that were better than anywhere else in the world, feeling confident that Mexico was in, or portions of it were in, the right latitude. Could a sufficient altitude be found in latitude 20, or that of the city of Mexico, or within three or four degrees south of the City of Mexico, the climate would be an ideal one. Such, I am happy to say, is that of portions visited while recently in Mexico. The question with thousands of sufferers is, where can I go to prolong my chances of life, suffer the least and get the most enjoyment out of the time allotted to me? Of the large number of persons who die annually of consumption in this country, thousands are sent to the high altitudes of the north, as the Adirondacks. While the dry cold climate of the Adirondacks is undoubtedly favorable to some cases of consumption, those cases should be individualized with the utmost care or the most fatal results may follow. While in the early stages of consumption persons with great vitality may find the dry cold air act as a tonic, the reverse will be the case in the later stages. We claim that an outdoor life is a positive necessity if we hope for benefit in cases predisposed to consumption. To say the enfeebled, faded, blood impoverished individual will be permanently benefited by exposing himself out of doors for hours in a temperature below freezing is to us an incomprehensible bit of nonsense; or to send a consumptive, or one predisposed to lung trouble, where he will have to be shut up indoors four-fifths of the time is to us equally nonsensical. A climate suited to the non-development of pulmonary disease, or to the prolongation of life to those suffering from such diseases, must be a climate favorable to continuous outdoor life in a dry aseptic air, under a light atmospheric pressure, within the largest possible amount of sunshine, upon a dry porous soils, where it is neither hot nor cold. Portions of Mexico offer every advantage enumerated, temperature never above 93 per cent. F., nor below 38 degrees F., with but little rainfall, which, as a rule, is during the night time. Sudden changes are impossible by reason of the almost continuous mountain ranges that afford protection to the tablelands of certain portions of that Republic. We believe Mexico offers what cannot be found elsewhere upon the American continent. After making careful observations, the writer has in mind plans and hopes for assistance in forming a colony for consumptives and a home for neurasthenics and rheumatics on the borders of the most beautiful lake in the world, at an elevation of about 5,000 feet, where the temperature is such that one can be comfortable outdoors all the year round. Within the grounds of the property under consideration are boiling springs, bubbling up loaded with highly valuable medicinal properties when drank, and are especially valuable for bathing purposes. Analysis of these waters has been made, showing their great value in certain blood conditions, rheumatism, nervous trouble and general debility. This exceptionally valuable property, owing to the fact that its owner, the British Consul to Mexico, is about to be sent to another station, can be obtained upon very favorable terms. The location to which we refer is only a short distance from the City of Mexico, and is accessible by first class Pullman car service, and can be reached as easily as Colorado, and much more easily and at no greater expense than Southern California. To any one interested in the subject here presented, I shall be very glad to give any information in my power. W. S. WATSON, M.D.

Riverview Sanitarium, Fishkill Landing, N. Y.

It has been established beyond doubt that, by a strange freak of nature, an aboriginal native woman of Australia, though absolutely free from any disease whatever, will never bring forth children to an aboriginal black fellow after she has once had offspring by a white man. Returning among white folks she conceives with evident ease.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York, Etc.

The Parotid Gland as an Ovarian Remedy.—On the strength of an influence which R. Bell (cited in the *Klinischtherapeutische Wochenschrift* for May 29—*N. Y. Med. Jour.*) thinks he has shown experimentally to be exerted by the parotid glands on the ovaries, that observer has used the dried parotids of sheep in a number of cases of ovarian disease. He reports 60 cases of enlargement and painful affections of the ovary in which this treatment resulted in a perfect cure. The dried gland is given in doses of five grains three or four times a day.

Treatment of Syphilis.—W. Murray (*Lancet*) protests against the administration of a course of mercury or the iodides with the idea that a steady course of either or both will in time effect a cure, if a cure is to be obtained by medicine. He emphasizes the fact that each time the disease recedes under specific treatment it may redevelop itself and reappear in a milder or more severe form, requiring a fresh course of mercury or of iodide, and it is necessary to watch the symptoms carefully when giving mercury, cutting it off when the symptoms stand still or get worse. At this juncture a bold administration of quinine will often act like a charm, and it may be safely combined with potassium iodide. Five or six grains of quinine three times a day is enough, and it will work with 15-grain doses of potassium iodide. Another resource, which may succeed when all medical treatment has failed, is pure air, highly nutritious diet, and good wine.

The Value of Errhines as Expectorants.—Sir Dice Duckworth (*Practitioner*) states that the benefit sometimes derivable from sneezing in cases of suffocative bronchitis is not sufficiently appreciated in medical practice. When the bronchia are encumbered with abundant secretion from their surfaces, and when, owing to associated pulmonary emphysema, or defective muscular expiratory power generally, cough is little effectual in promoting adequate expectoration, sneezing is often a powerful aid to the latter process. This may be readily induced by ordinary snuff. It should be fresh and pungent as possible. Failing this, recourse may be had to a snuff composed of one part of veratria and 20 parts of starch, lycopodium, or licorice powder. This is usually unfailing to provoke effective sneezing and cough with abundant expectoration. The author found marked relief thus afforded, and the powder may be used two or three times daily. We have few better agents for rousing the respiratory center in the medulla oblongata, reflexly through the nasal branches of the fifth nerve, than errhines, and their value has, the author thinks, been too much forgotten in recent practice.

How to Stop the Inflammation from Vaccination, when Running to Excess.—The *British Med. Journal* contains a communication from Clement Lucas, F.R.C.S., directing attention to the importance of preventing excessive inflammation in connection with vaccination, and describing a plan of treatment which will completely check the inflammatory process. Cases where there is much local reaction are seized upon by those opposed to vaccination and much capital is made out of them. The author directs that in the event of the pustules tending to become confluent on the twelfth or fourteenth day, and the inflammatory zone to spread with perhaps enlargement of the axillary glands and edema of the arm, the area of the pustules should be powdered over with iodoform, and a sterilized dry pad be applied to keep the powder in position and the pustules from irritation. The process is controlled in 24 hours. The pustules dry into a cake, the redness subsides, the glands decrease, and the edema of the arm rapidly disappears. This treatment the author considers in every way preferable to hot fomentations or antiseptic moist applications.

The Roentgen Rays and Hysteria.—Dr. Holland, reporting in the *Liverpool Med. Chirurg. Jour.* the examination of 32 cases for foreign bodies in the hand or wrist, found them in all but six cases. Regarding these latter he says: "Nearly all are women, and they are generally hysterical; they complain of pain, and are certain that at some date a pin or needle had run into the hand and had stayed there. To be able to take a radiograph and demonstrate to these people the absence of any such thing is to cure them of their ailment. On the other hand, many patients complaining of pain in this manner have been considered as manifesting hysteria, and to be able to demonstrate the presence of a foreign body is most important.

RETROSPECTIVE DIETETICS.

Wheat Products in Infant Feeding.—Dr. L. Duncan Bulkley, in a brief communication with this title (*Pediatrics*) stated that in the case of infants whose nutrition was at fault, particularly when this was indicated by a persistent eczema, he had obtained the very best results from adding a certain wheat product to the food. He did not wish to be understood as favoring artificial feeding, and least of all the numerous proprietary infant foods, for he firmly believed that nature and human experience plainly taught us that breast milk was ordinarily the food *par excellence* for infants. The wheat product to which he had reference, and which he had used extensively for the past ten years, was prepared according to the following directions, which must be rigorously adhered to:

A teaspoonful of wheaten grits or crushed wheat is put in a pint of cold water in a china receptacle, in a double boiler, at the time of preparing the evening meal, and is allowed to cook slowly for two hours. It is then covered and set aside until morning, when it will be found more or less jellified. Some water should now be added so as to make it quite thin, and it is then cooked for two more hours. After this second cooking it is rubbed through a fine sieve with the bowl of a spoon, more water being added if necessary. The hard and indigestible portions of the wheat are left on the sieve, and the gelatinous mass which passes through contains all the nutritive portion of the wheat. This portion will readily pass through the feeding-bottle. It must be prepared fresh every day. For very young infants, it is sufficient to add one or two teaspoonfuls to each feeding, while older children may take as much as a tablespoonful of it. It is slightly laxative and exceedingly digestible. The philosophy of this method of preparation is as follows: The prolonged heating extracts all the soluble elements of the whole meal, including the starch, gluten and phosphates, and at the same time sets up a fermentive change, which causes a partial digestion of the mass. This fermentation is checked by the second cooking. The speaker added that this wheat product, when rightly prepared, represented the nearest approach to a complete food, next to milk, and it was very cheap and easily procured. A weak solution of this wheat jelly would be found an admirable substitute for barley water in infant feeding.

Dietetics of Heart Disease.—At the recent annual meeting of the American Medical Association (*Med. Jour.*), R. H. Badcock, of Chicago, referred to the vicious circle established between digestion and heart disease. Venous stasis of stomach, intestines, pancreas, gall ducts and liver in ensified the difficulties of nourishment under these conditions. Not only was digestion impaired, but the glycogenic, urea-forming and protective functions of the liver were added to the problem. Anemia was thus added; also uric acid accumulation in the system, and deficient general oxidation. Two classes of cases were to be considered: (*A*) those in which compensation was present; (*B*) those in which compensation was lessened or lost. In the second class the dietary must be restricted. The "gone" feeling and thirst in these cases were no indication for food. Food should not be given too often, but at intervals of five or six hours. The stomach was to be spared, and the symptoms would improve. If necessary, somatose, nutrose, or even nutrient enemata might be given. Hot water before meals was useful. The amount of fluid taken with meals should be restricted. In the presence of eczema it should be reduced to a minimum. This included milk also. Starch, sugars and fat were bad, owing to their tendency to cause flatulency and post-prandial pressure. Proteids were best. Apples, peas, beans, meats, oysters, were all good. When nephritis complicated it, milk was to be used; when arterio-sclerosis, no food containing much calcium salts should be taken.

MISCELLANY.

—Winking at sin is declared to be bad for the eyesight.

—Hydrastis canadensis is probably the best remedy for irregular uterine hemorrhage during pregnancy.

—Dr. Vansant states that one-tenth part of a one per cent. solution of formaldehyde will preserve a solution of cocaine indefinitely.

—Never neglect to examine the lungs, says Charlotte *Medical Monthly*, in all cases of ischio-rectal diseases and fistula in ano.

—A good trade is said to be done in Southern Africa by men vaccinating Kaffirs at two shillings a head and using condensed milk as lymph.

—Dr. Schneider says that in an experience of over fifty years he has never known sulphuric acid, 1x or 2x, to fail in controlling persistent hiccough.

—Dr. Martin says that anorexia and gastro-intestinal disturbances developing in old men are common signs of beginning renal incompetency.

—ENURESIS.—Dr. Freyberger gives 30 cases treated with rhus aromatica, in doses of from five to ten minims, given three times a day, with entire success.

—In Switzerland a milkmaid or man gets better wages if gifted with a good voice, because, it is said, a cow will give one-fifth more milk when soothed by a pleasant melody during the time of milking.

—Dr. Cardamentis, of Athens, claims to have cured 93 per cent. out of 275 cases of acute and chronic malaria with daily doses of ten to twelve grains of methyl blue. This has been a favorite remedy with us for many years.

—Up to Nov. 1 there had been nine cases of the plague in Vienna, of which three terminated fatally. There is no danger of its extending in even a moderate degree outside of the city and it is under control in the city.

—A Berlin inventor has discovered a process for making writing paper that will not burn. He has also invented a peculiar ink that resists the action of fire and remains upon the paper as a dark brown sediment.

—Dr. Sinclair, of Manchester, is responsible for this *bon mot:* Modern medical students learn surgery, which but few practice; nearly all practice obstetrics, which few learn.

—Sir Henry Thompson, in the revised and enlarged edition of his "Food and Feeding," says he is convinced that those who drink water with their dinner enjoy the pleasure of eating more than do those who drink wine.

—We learn from the *British Medical Journal* that among other congresses to be held in Paris in 1900, a proposal is made for one to discuss questions of medical ethics and policy.

—Professor E. Behring claims that he has discovered a method of avoiding the injurious after-effects of horse and other animal serum, to which consumptives seem particularly sensitive. He substitutes the serum of birds.

—It is stated that over one thousand sets of individual communion cups were sold to about three hundred churches during 1897. Each service consists of a tray and forty small cups or glasses, holding each about half an ounce.

—At a recent meeting of the Consistory of the Reformed Church, of East Berlin, Pa., it was decided that no dead body should hereafter be permitted to be brought into their church. This action has produced a sensation, and it is said that other churches will follow the example.

—Caroline Crot, formerly Caroline Abigail Brewer, of Boston, has left $100,000 to two prominent physicians of that city for investigations to find some way of curing cancer, consumption and other diseases now regarded as incurable.

—A German biologist has calculated that the human brain contains 300,000,000 nerve cells, 5,000,000 of which die and are succeeded by new ones every day. At this rate, assuming the correctness of the reckoning, we get an entirely new brain every sixty days.

—*Baumas* has extracted the active principle of the thyroid gland, which he says is iodine, which he combines with sugar of milk, giving the name to the product *Iodotherine*. In obesity he finds one half gram daily productive of marked results.

—Bright red spectacles, accompanied by internal doses of calomel form a new German specific against seasickness. Seasickness is due to lack of blood in the brain, while (according to Epstein's investigations) red sends blood to the brain with a rush. By linking at one point for some time through the red glasses the patient is cured radically.

—Recent scientific measurements have proved that the moving air is a real source of danger in the case of a railway train going at full speed. The air not only possesses sufficient power to knock one over, but it also communicates a spinning motion tending to roll a person under the train.

—Dr. Eijkman, of Batavia, records the observations made by himself and by Dr. Vordderman on the cause of beri-beri in Java, among 280,000 persons. The disease is traced to rice diet, independent of locality, extraneous influences, or of the origin or the condition of the rice itself; it is found to be caused by decorticated or white rice.

—In the *Bulletin del Consejo Superior de Salubridad* of February, Dr. Revueltos, a public vaccinator of Mexico, states that in twenty-eight persons vaccinated whilst they were suffering from whooping-cough; the frequency and violence of the attacks notably diminished from the moment of vaccination, and that when the pustules reached maturity the patients were almost or entirely cured.

—The Boston Emergency Hospital has adopted the use of an electric circular saw to take the place of the knife in making amputations. Dr. Galvin claims that by its use no anaesthetic is necessary, as the operation is painless, and it shortens the time, as it cuts through almost instantly. This he claims lessens the shock. No ligatures are needed and all the cases so far treated have done better than by the old method.

—It has been decided by the New York Court of last resort, that "a physician who is called upon to treat a patient at childbirth, and while doing so, and as a necessary incident of his investigations to enable him to act in that capacity, discovers a physical ailment in his patient, cannot be permitted to testify with respect to such ailment, notwithstanding it was a matter about which he was not consulted and for which he did not prescribe."

—Drs. Lee, Vaughan and Shakespeare, who were appointed to investigate army camps, report, as the result of inquiring at the camps in Chickamauga, Huntsville, Fernandina and Jacksonville, that the pestiferous fly is largely responsible for the spread of the disease. The germ was brought by the volunteers from State camps, and the flies scattered the germs by feasting or feces, hard tack and "sour belly."

—It has been shown that blue is the natural color of perfectly pure water. Very fine colorless particles in suspension give rise to a yellowness which, combined with the natural blue, makes certain waters appear green, and when such green waters are again slightly tinted by admixture with a trace of reddish ferruginous mud, as occasionally happens, the red and the green tints neutralize each other, so that the water remains for the time absolutely colorless. Absolutely colorless water, then, is not pure.

—The *San Francisco News Letter* vouches for the truth of the following story: "In a certain church there is an organization—what its uses are only the members know—called the Little Mothers of the Church. The rector, who is described as young and artless, was giving out a notice about it the other Sunday, and how a woman could join it, etc. Then came this announcement: "Any lady wishing to become a Little Mother can do so by calling on the rector any Friday, in his study attached to the church," and a murmuring wave, like a sudden wind in the forest, went over that congregation.

—In threading needles (straight, curved, or cervix), the following little manipulation is easy of execution, useful and practical and will save both temper and nerves, says Joseph H. Jackson, in *Philadelphia Medical Journal.* (*Med. Rev*). Let the needle be held with the ring and little fingers of the left hand, instead of with the thumb and forefinger as usual, leaving the latter free to grasp the smallest bit of silk, etc., introduced through the eye, and pull it through. By the old method, when the silk was introduced into the eye and the needle changed from the left hand to the right, in order to pull the suture through, it invariably slips back.

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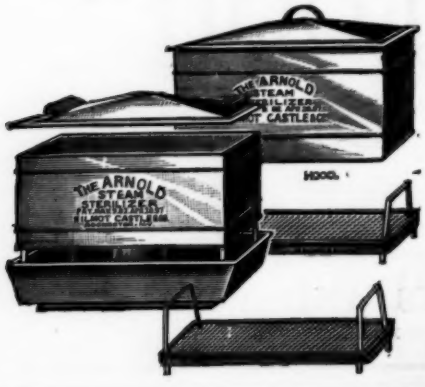

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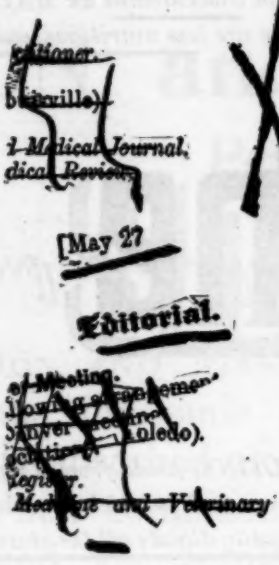

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Try it in ***Dyspepsia*** or Malnutrition of young or old, and watch the recuperation of the paralysed alimentary powers.

Try it in ***Intestinal*** or gastric irritation, inflammation, or ulceration, that inhibits food itself, and witness the nourishing, supporting and healing work done entirely by absorption, without the slightest functional labor or irritation; even in the most delicate and critical conditions, such as Typhoid Fever and other dangerous gastro-intestinal diseases, Cholera Infantum, Marasmus, Diarrhœa, Dysentery, etc.

Try it per rectum, when the stomach is entirely unavailable or inadequate.

Try it by ***subcutaneous*** injection, when collapse calls for instantaneous blood supply—so much better than blood-*dilution!*

Try it on ***Chronic Ulceration,*** in connection with your antiseptic and stimulating treatment (which affords no nourishment) and prove the certainty and power or topical blood nutrition, abolishing pus, stench, and PAIN, and healing with magical rapidity and *finality.*

Try it in ***Chronic Catarrhal*** Diseases; spraying it on the diseased surfaces, with immediate addition of peroxide of hydrogen; wash off instantly the decomposed exudation, scabs and dead tissue with antiseptic solution (Thiersch's; and then see how the mucous membrane stripped open and clean, will absorb nutrition, vitality and health from intermediate applications of pure bovinine.

Try it on the ***Diphtheritic Membrane*** itself, by the same process; so keeping the parts clean and unobstructed, washing away the poison, and meanwhile sustaining the strength independently of the impaired alimentary process and of exhaustive stimulants.

Try it on ***anything,*** except plethora or unreduced inflammation; but first take time to regulate the secretions and functions.

Try it on the ***patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

A New Hand-book of Hæmatherapy for 1898, epitomizing the clinical experience of the previous three or four years, from the extensive reports of Hospital and private practice. To be obtained of

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SUCCESSFULLY employed by the Medical Profession everywhere, as a uric solvent, tonic regulator, and eliminating agent in nervous and renal disorders. Extremely pleasant to the taste, well borne by the stomach, prompt, safe and efficient. The standard prescription in chronic cases, where the liberal use of a strong alkaline agent is indicated. Pronounced by eminent medical authorities in renal diseases, after exhaustive clinical tests, to be a **positive discovery** in the therapeutics of Diabetes, Bright's disease and the uric acid diathesis.

Prof. Clifford Mitchell, A.M., M.D.
(In the Hahnemannian Monthly, Phil., Pa., of Jan., 1897.)

"However skeptical, I could hardly close my eyes to the favorable results obtained. I wrote a paper about the water (Allouez), which was read at Omaha. In this paper I took the ground that the water was well worthy of trial. Was curious to learn whether other physicians would get as good results. Since that time I have had a number of grateful letters, the first in my experience in treating **Diabetes.** 'I am better than in years,' writes one man. 'It has been a God-send,' says another. 'A thousand thanks,' says a third. Two of the most striking instances of immediate relief or cure have occurred within the last month or two. Dr. B F. Bailey, of Lincoln, Neb., has used it lately in a typical case of **diabetes mellitus,** with hunger, thirst, polyuria, and abundance of sugar, and reports to me that the patient is already virtually cured. Finally, on Sept. 30, 1896, I prescribed it to a patient who was passing 94 ounces of urine, of specific gravity 1024, containing 3 per cent. of sugar, or 1410 grains, in 24 hours. November 7th, the urine came to me in the following condition: Quantity, 49 fluid ounces; specific gravity, 1016; sugar, none. This in about five weeks' time! The patient reports a marked change for the better in all subjective symptoms. Careful dieting was observed by him in connection with the treatment. Inasmuch as many of the patients who have been benefited or cured by the water, had resisted the action of familiar drugs, as jumbul, arsenic, lithia and codeine, I ask the question: **Is it a discovery in therapeutics of diabetes?**"

C. M. Koller, M.D., Chicago.

"In **Diabetes** I consider **Allouez Spring Water indispensable.** I have treated four cases of Diabetes Mellitus in the incipient stage, which yielded readily to the water, and several advanced cases, which yielded only after protracted use. My confidence is so strong that I do not now hesitate to treat sufferers with this dreaded disorder, as I feel certain that almost every case, if not too far gone, can be cured or life prolonged for several years if treated with this water. It stops fermentation, assists assimilation and elimination, hence its uniform success as a remedy in the disorders of digestion."

A. B. Spach, M.D., Chicago.

"I have found **Allouez** water of great value in genito-urinary diseases and the uric acid diathesis. One obstinate case of chronic **cystitis** prostatis was practically cured by this water. In digestive disturbances with hyperacidity, it has served me well."

P. O'Keef, M.D., Menominee, Mich.

"In July, 1892, after continued treatment, including a milk diet, and consultation, as a last resort I prescribed **Allouez** alone, in the case of a young man twenty-two years old, suffering from **Bright's Disease** (acute parenchymatous nephritis), and the prompt results obtained were extremely gratifying. When placed on the water the kidneys were enlarged and very tender and could be seen bulging the sides and front of the abdomen. The urine was heavily loaded with albumen, tube casts, and broken down tissue having a specific gravity of 1008, and excretion amounted only to 6 to 8 ounces in twenty-four hours. After a few days' use of the water the passage of the urine increased rapidly to 90 ounces in twenty-four hours, with specific gravity at 1014. The urine gradually became clearer, and in about two weeks the quantity passed in twenty-four hours decreased from 90 to 60 ounces, and specific gravity became normal. Two months afterward the microscope revealed neither tube casts nor blood and only a trace of albumen. This patient entirely recovered, and his present good health prompts my presenting these facts now, six years later. Have often used **Allouez** since, in cases of **Brights, Diabetes, Rheumatic Gout,** and renal derangements generally, and results have been such that my confidence in its therapeutic value is deep seated."

A. H. Levings, M.D., Pres. College Physicians and Surgeons, Milwaukee.

"During the past summer I suffered from an aggravated case of **Catarrhal Jaundice. Allouez** was of great benefit to me, and aided very materially in my recovery."

R. A. Neale, A.M., M.D., Chicago.

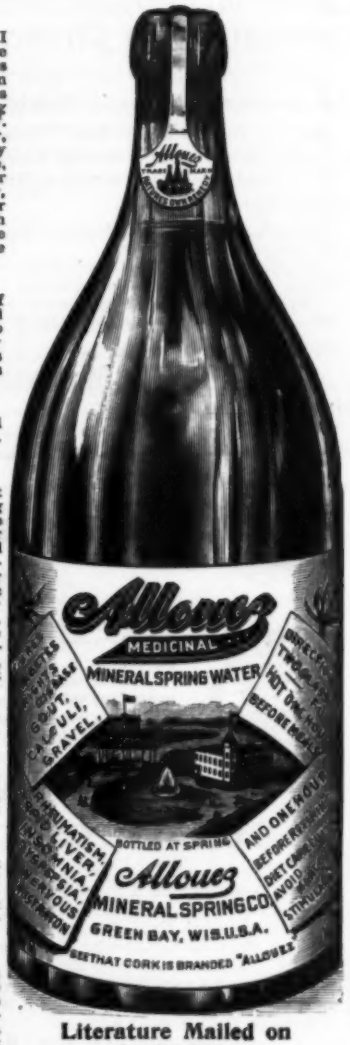
"I have prescribed **Allouez Magnesia Water** for the past two years in my practice, and with entire satisfaction. The most remarkable results have been obtained from its use in **Chronic Rheumatic Gout, Diabetes and Bright's Disease**—the best I have ever had from the use of any remedial agent."

C. B. DeBey, M.D., Chicago.

"I note with pleasure a splendid improvement in my Diabetic patient. The abnormal thirst is gone, sugar shows decrease of 70 per cent.; specific gravity which at first test was 1034 is now 1022; quantity of urine passed now is about normal. This has been a very difficult case to treat owing to her youth and nervous temperament. **Allouez Water** has surprised me. In **scarlet fever and albuminuria of pregnancy** I found it equally effective. Shall use it alone and in conjunction with other medications hereafter very extensively."

E. L. Shepard, M.D., Edgerton, Wis.

"I have used **Allouez Magnesia Water** with satisfactory results in a number of cases within the past year. Its action in a severe case of diabetes is especially worthy of mention. The patient before coming into my hands had been examined by two specialists at Chicago, the urine then showing over 5 per cent. of sugar present. Found by tests that the sugar had increased to nearly 6 per cent., condition alarming. A three weeks' use of the water showed a decrease of the sugar fully one-half. At the end of two months but traces were left. The past few months there have been no traces of sugar present and patient looks in perfect health."



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Beta-Eucaine (Eucaine Hydrochlorate "B").

Eucaine "B" has been extensively used in all branches of surgery, dentistry, ophthalmology, etc. Favorable reports concerning it have come from a host of practitioners on both sides of the Atlantic.

In a report made at the Academy of Medicine, Paris, March 29, 1898, published in *The Bulletin Medical* of March 30, 1898, **Prof. Reclus** stated: "**Eucaine 'B'** possesses a number of indubitable advantages. In the first place, **its solution can be boiled without undergoing decomposition, thus permitting it to be sterilized by heat.** This cannot be done with cocaine. In the second place, solutions of **Eucaine 'B' are stable, and this is the case to such an extent that he has been able, in conjunction with Dr. Legrand, to perform a number of long and delicate operations with solutions that were more than four months old.** This is far from being possible with cocaine solutions, as they change at the end of four or five days. Finally, and this is really the most important point, **Eucaine 'B' is 3¼ times less toxic than cocaine.**"

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A most efficient diuretic, urinary antiseptic, uric-acid solvent, and remedy for calculous disease. Rapidly renders alkaline and putrid urine containing mucus, pus, uric acid, any amorphous urates normal in appearance and reaction. It sterilizes the urine, increases its quantity, and dissolves calculi and deposits. Very valuable in all suppurative diseases of the genito-urinary tract, pyelitis, crystitis with ammoniacal decomposition of the urine, phosphaturia, and also in gouty and rheumatic affections where active elimination of uric acid and the urates is required. Dose, 3 to 7½ grains two or three times a day, best administered in half a pint of simple or carbonated water.

Literature furnished on application.

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J. H. Goethe, M. D., Varnville, S. C., says: CELERINA was given to a patient suffering from nervous prostration, the result of habitual alcoholic excess. Under its administration his system was not only completely renovated, but he was enabled to overcome the habit of indulging in strong drink, and is now enjoying good health. I regard CELERINA of great value to the professions.

Hypo Substitute for Opiates

Dr. Obe F. Watlington, of Memphis, Tenn., writes in the *Medical Brief*, "I have in my possession a hypodermic alkaloidal solution, which is a specific in drug addictions (opium habituation, alcoholism, etc.). On receipt of a two cent stamp I will take pleasure in furnishing any of the medical profession the formula, by the use of which a number of the fraternity have been enabled to cure themselves of opiumism, alcoholism and insomnia. I used morphia hypodermically for 10 years. Obtained a perfect cure by this prescription."

The Only One —"I am glad to be able to give you the following testimony regarding a patient who has been an invalid for many years, and has had great trouble with her diet, I think due to a subacute inflammation of the mucous membrane of the stomach and bowels. For months at a time she has been unable to take a particle of starchy food, and naturally a number of the prepared foods have been tried and different ones have seemed for a time to agree with her, but IMPERIAL GRANUM is the only one she can always rely on, often using it exclusively as a diet for weeks at a time. In one or two instances we feel that it has almost saved her life."

Iodoform and its Substitute in the Treatment of Phthisis.—Among the numerous remedies that have been recommended in the treatment of phthisis, one of the few deserving a careful trial is IODOFORM and its susbtitute EUROPHEN, concerning which a number of very valuable reports have been recently published.

At a meeting of the American Medical Association last year it will be remembered that Dr. L. F. Flick, of Philadelphia, reported a number of cases of phthisis, in which considerable improvement had been derived from the use of IODOFORM and especially of EUROPHEN, employed chiefly in the form of inunctions.

In a paper laid before the same society this year Dr. Flick (*Maryland Medical Journal*) reiterates his favorable experience with solutions of IODOFORM or EUROPHEN and oil. He states that the value of these drugs lies undoubtedly in the iodine, and that the mode of action appears to be the production of nascent iodine in the blood by the decomposition of IODOFORM and EUROPHEN and the consequent inhibition of the tubercular process.

Dr. Edward O. Otis, of Boston (*Boston Medical and Surgical Journal*, July 21,) discussing the modern methods of the treatment of phthisis and its symptoms, also emphasizes the value of IODOFORM, either used as such or in the form of its susbtitute EUROPHEN. He remarks that as far as evidence has accumulated regarding it, its chief effect appears to be an improvement of the appetite, increase in weight and a diminution of the cough. According to Ransom who is careful in his statements, it is one of the best of the medicines that can be given for the purpose of assisting nutrition and alleviating cough.

"One of the chief attractions at the annual gatherings of The American Medical Association is always the exhibition hall, where the principal drug, instrument and food products of the world, the results of years of experimental research and labor, are placed in view.

"Among the many attractive exhibits at this year's Denver meeting, that of IMPERIAL GRANUM, recognized by many leading physicians as the standard among prepared foods, occupied a prominent space and the representative in charge was kept busy explaining to the visiting physicians the superiority of this preparation. Handsome sample boxes of the food, and copies of The Imperial Granum Co.'s valuable clinical record, were presented to each physician in attendance."

—M. Felix Faure, president of the French Republic, recently paid an unofficial visit to the Paris Ecole de Medicine. This is said to be the first time that the head of the State in France has done such a thing.

Allouez Water in Bright's Disease.—"In July, 1892, after continued treatment, including a milk diet, and consultation, as a last resort, I prescribed ALLOUEZ alone in the case of a young man 22 years old, suffering from Bright's disease (acute parenchymatous nephritis), and the prompt results obtained were extremely gratifying. When placed on the water the kidneys were enlarged and very tender and could be seen outlining the sides and front of the abdomen.

"The urine was heavily loaded with albumen, tube casts, and broken down tissue, having a specific gravity of 1008, and excretion amounted to only 6 to 8 ounces in 24 hours. After a few days use of the water the passage of the urine increased rapidly to 90 ounces in 24 hours, with a specific gravity of 1014. The urine gradually became clearer, and in about two weeks the quantity passed in 24 hours decreased from 90 to 60 ounces, and specific gravity became normal. Two months afterward the microscope revealed neither tube casts or blood and but a trace of albumen.

"This patient entirely recovered, married several years ago, and his good health to-day prompts my presenting these facts now, six years later. Have often used ALLOUEZ since, in cases of Bright's disease, rheumatic gout, and renal derangements generally, and results have been such that my confidence in its therapeutic value is deep-seated." —P. O. KEEF, M. D., Menominee, Wis.

Hernia Treated by the Injection Method.—Dr. W. W. Brown, of Blackstone, Mass., reports in the *Atlantic Medical Weekly* cases treated by injection as follows:

Creosote	℥.xv.
Morph. sulph.	grs. ii.
Glycerite of tannin	ʒ i.
Witchhazel	ʒiii.
Reduced by distillation to	ʒi.

M. Dose from V to X minims.

The mode of procedure, as practiced by me, is as follows:

Having placed the patient in a recumbent position and the hernia returned to the abdominal cavity, the left index finger is invaginated in the scrotum, and the point of the finger pushed well into the canal. The syringe (I use a common hypodermic syringe, with a somewhat longer needle than the ordinary) is then taken in the right hand, using the left finger as a guide, the needle is thrust through the tissues, just beyond the tip of the finger, and slightly elevated toward the opening, and the fluid deposited. This is for oblique hernia; for the direct form, injection the border or over external ring.

This operation should be repeated at intervals of from four to six days, six or eight times, or as often as the case may demand. After the injection, the parts should be slightly kneaded.

Pertussis.—

℞	Phenocol hydrochloride Antipyrin	aa.....gr. viiss.
	Potassium bromide	.....gr. vi.
	Syrup of bitter-orange peel Orange-flower water	aa.....q.s.

M. S.—Divide into four doses and give all in 24 hours to a child of eight years.—*Guaita*.

In Laryngeal or Winter Coughs.—Dr. Walter M. Fleming (*Journal of Nervous and Mental Diseases*) says, that in acute attacks of laryngeal or winter cough, tickling and irritability of larynx, ANTIKAMNIA AND CODEINE TABLETS are exceedingly trustworthy. If the irritation or spasm prevails at night the patient should take a five grain tablet, containing 4¼ grains antikamnia and ¼ grain sulphate codeine, an hour before retiring and repeat it hourly until the irritation is allayed. Allow the tablet to dissolve slowly in the mouth, swallowing the saliva. After taking the second or third tablet the cough is usually under control, at least for that paroxysm and for the night. Should the iritation prevail in the morning or at midday, the same course of administration should be observed until subdued. In neuralgia, in short, for the multitude of nervous ailments, he doubts if there is another remedial agent so reliable, serviceable and satisfactory, and this, without establishing an exaction, requirement, or habit in the system, as morphine does.—*The New York Medical Journal.*

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On the whole, it is a clever story.—*Journal of American Medical Association.*

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DOSE.—Two teaspoonfuls alone or mixed with twice quantity of water, to be taken after each meal.

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In a recent contribution to the *Medical News*, November 27, 1897, by Prof. R. W. WILCOX: **"A Phase of the Treatment of Goutiness,"** the author arrives at the following conclusions:

"That Piperazine, administered in the form described (Piperazine Water) in this paper, is the remedy of choice for the elimination of uric acid, not only in this (neurotic lithemia) but in other pathologic conditions dependent upon the same cause."

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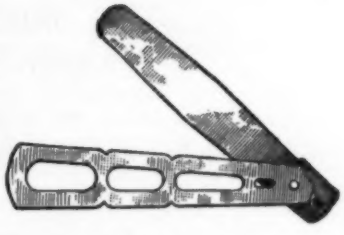

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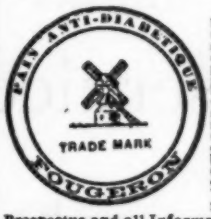

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Ex-President State Medical Society, formerly Member of the State Board of Medical Examiners and also of the State Board of Health: "I had, in January, 1893, a violent attack of '**grip,**' which was soon followed by the complications of **ascites, cardiac trouble, etc.,** and rapidly developed into severe **nephritis** or **Bright's.** My physicians, Drs. King and Jerman, upon examination of my urine, found by volume **fifty-five per cent. albumen,** which test was frequently corroborated by subsequent examinations, **showing also casts and low specific gravity.** My **nephritic trouble** gradually grew worse, and I declined in weight from **one hundred and ninety-five to one hundred and thirty-five pounds.** In this condition, with little if any hope of relief from any remedy, I visited the BUFFALO LITHIA SPRINGS of Virginia, making free use of the **Waters** for some eight weeks. Analysis of the urine soon after reaching the Springs, by Dr. E. C. Laird, resident physician, confirmed the examinations previously made. Other analyses, however, by Dr. Laird, from time to time, showed a gradual diminution, and finally a **total disappearance** of **both albumen** and **casts** and **the urine in a normal condition.** Leaving the Springs, I continued the use of the **Waters** several months at home. At the expiration of some two years there has been no return of any unpleasant symptom, and I am now as well as I ever was in my life, **and a living monument to the virtues of** BUFFALO LITHIA WATER. I make this statement from a sense of what is due to the medical profession and to the cause of humanity."

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of Woonsocket, R. I.

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of Boydton, Va.

[A communication from the *Virginia Medical Monthly* for March, 1888.] "Three years ago, without having been previously sensible of impaired strength or any deterioration of health, I found myself suffering from **Bright's disease of the kidneys.** My attention was first directed to the existence of renal trouble by dropsy making its appearance as œdema on the face, particularly around the eyes, and simultaneously in the lower extremities. Examination showed that the urine contained two and a half per cent. of **albumen,** there was a **heavy sediment,** and **casts of urates** were **deposited in abundance.** This state of things was soon followed by **uræmic poisoning, manifested by coma and delirium,** and I was confined for many months to my bed, everything pointing to a fatal termination. Treatment failing of any permanent good results, I was in this condition put upon BUFFALO LITHIA WATER, **Spring No. 2, the good effects of which were soon apparent in a notable diminution of the albumen,** a partial disappearance of the dropsy, and **a gradual subsidence of the coma and delirium.** Under the continued use of the **Water** there was slow but constant improvement in my condition, until I was so far restored as to be able to enter actively upon the practice of my profession, in which I have now been engaged for some two years without any interruption of moment on account of my health. There has been occasionally some manifestation of unpleasant symptoms, but I have found them promptly disappear under the influence of the **Water.** With this experience I cannot do less than commend this **Water** to the profession as worthy of trial in other similar cases."

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ANALYTICAL REPORT OF DR. J. W, MALLET, UNIVERSITY OF VIRGINIA, WHO ALSO SUGGESTS MODUS OPERANDI OF THE WATER.

UNIVERSITY OF VIRGINIA, CHARLOTTESVILLE, Va., Oct. 11, 1898.

COL. THOS. F. GOODE, Buffalo Lithia Springs, Va.

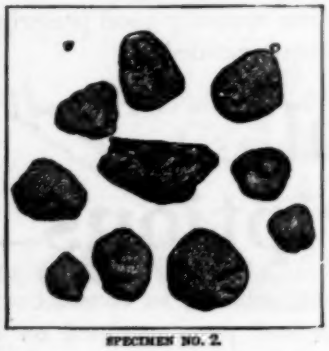
DEAR SIR:—I have examined at your request three collections of calculi, handed me on your behalf by Dr. A. G. Kimberley, of which those marked No. 1 and No. 2, I was informed had been reported on by Dr. F. S. Whaley, Resident Physician at the Buffalo Lithia Springs, as passed by patients under the action of the water of spring No. 2; the collection No. 1 representing renal and No. 2 vesical calculi—the collection marked No. 3 being vesical calculi reported on by Dr. G. L. Wimberly, of Rocky Mount, North Carolina. I have also examined at your request a fourth specimen of disintegrated calculous material which was sent me nearly two years ago by Dr. E. C. Laird, at that time Resident Physician at the springs, reported on by Dr. Laird as passed in large quantity—several ounces in all—by a patient using the water of one of these springs; this last specimen I have designated No. 4.

SPECIMEN NO. 1.

No. 1 consisted of three granules, of light cinnamon brown colour, both outside and on a surface of fracture; two of them were of irregular shape, somewhat honey-combed, looking as if acted upon by a solvent; of medium degree of hardness; aggregate weight of the collection .181 gramme. Photograph No. 1 represents this collection, magnified 1.8 diameters. An analysis of the whole of this collection gave the following results:—

Uric Acid	78.93
Ammonium urate	17.55
Sodium urate	trace
Calcium urate	.72
Ammonium magnesium phosphate	1.19
Calcium phosphate	trace
Organic colouring matter	trace
Proteid organic matter, and hygroscopic moisture	1.61
	100.00

Collection No. 2 consisted of ten granules, for the most part of light yellowish brown colour like No. 1, but rather lighter and whitish on the outside, smoother and more rounded than those of No. 1; but one (the largest) granule exhibiting a honey-combed surface (this one had also a little blood-stained mucus on the outside, which was scraped off prior to analysis), moderately hard and compact; two or three of the granules showing distinct concentric layers; aggregate weight of the collection .829 gramme. Photograph No. 2 shows this collection, magnified 1.8 diameters. Analysis of the whole collection gave:—



SPECIMEN NO. 2.

Uric acid	71.32
Ammonium urate	4.73
Sodium urate	.18
Calcium urate	.10
Calcium oxalate	20.26
Ammonium magnesium phosphate	1.15
Calcium Phosphate	.94
Iron phosphate (ferric)	trace
Organic colouring matter	trace
Proteid organic matter, and hygroscopic moistu	1.32
	100.00

SPECIMEN NO. 3.

No. 3 consisted of seven granules, or separate small calculi of browner and darker colour than Nos. 1 and 2, both externally and on a surface of fracture. With generally rounded forms, the external surfaces were finely rough and pitted, as in No. 1, and the interior porous, presenting the appearance of having been acted upon by a solvent liquid; aggregate weight of collection .598 gramme. Photograph No. 3 shows this collection, magnified 1.8 diameters. Analysis of the whole collection gave:—

Uric acid	90.68
Sodium urate	.46
Calcium urate	.63
Ammonium magnesium phosphate	7.10
Calcium phosphate	trace
Iron phosphate (ferric)	.18
Calcium oxalate	trace
Organic colouring matter	Notable trace
Proteid organic matter, and hygroscopic moisture	.95
	100.00

No. 4 was a fine sandy powder of light buff colour, nearly white. Under the microscope the greater part was seen to consist of small crystals and crystal fragments. There were a few minute fibres of wood (the presence of which was pointed out by Dr. Laird, and explained by the mode of collecting the specimen); these were picked out prior to analysis. Weight of specimen as received 1.544 gramme. Photograph No. 4 exhibits the appearance of this material, magnified 65 diameters. The results of analysis were:—

SPECIMEN NO. 4.

Ammonium magnesium phosphate	64.91
Calcium phosphate	21.65
Iron phosphate (ferric)	.13
Calcium carbonate	3.99
Uric acid	3.73
Ammonium urate	3.81
Sodium urate	.58
Calcium urate	.32
Proteid organic matter, and hygroscopic moisture	.86
	100.00

In the case of Nos. 1, 2 and 3, the concentric structure of the granules was too fine, and the whole quantity of material too small to admit of separate examination of such thin layers as were present of various composition, due to varying character of the urine during the time within which each calculus had formed.

It seems on the whole probable that the action of the water is primarily and mainly exerted upon uric acid and the urates, but that when these constituents occur along with, and as cementing matter to, phosphatic or oxalic calculous materials, the latter may be so detached and broken down as to disintegrate the calculus as a whole in these cases also, thus admitting of urethral discharge.

Yours truly,
(Signed) J. W. MALLET.

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